The Journal of FINANCE

VOLUME VII · 1952

Edited by MARSHALL D. KETCHUM *and* J. FRED WESTON
with the co-operation of the members of the Editorial Board of the American Finance Association

THE AMERICAN FINANCE ASSOCIATION

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Vol. VII MARCH 1952 *No. 1*

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Population Movements and Investment (II) *Joseph J. Spengler*

Residential Mortgage Lenders . . *George W. McKinney, Jr.*

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Inflation Control through a National Wage Policy *Louis Siegelman*

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THE JOURNAL OF FINANCE

Published by the American Finance Association

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THE JOURNAL OF FINANCE is published four times a year, in March, June, September and December, at 5750 Ellis Avenue, Chicago 37, Ill. The JOURNAL is sent to all members of the Association, as one of the privileges of membership, $3.00 of each year's dues being in payment of a year's subscription. The subscription price for libraries is $3.00 a year.

The American Finance Association assumes no responsibility for the views expressed by authors whose contributions are published in *The Journal of Finance.*

Correspondence relating to membership in the American Finance Association and other business matters should be addressed to the Secretary-Treasurer, Louis P. Starkweather, School of Business Administration, Rutgers University, Newark, N.J.

Communications relating to editorial content of THE JOURNAL should be addressed to the Editor, Marshall D. Ketchum, School of Business, University of Chicago, Chicago 37, Illinois, or to the Associate Editor, J. Fred Weston, College of Business Administration, University of California, Los Angeles 24, Calif. Correspondence relating to book reviews should be addressed to the Book Review Editor, Clyde William Phelps, University of Southern California, Los Angeles 7, Calif. Correspondence relating to advertising should be addressed to the Advertising Manager, E. A. Otto, School of Business Administration, Rutgers University, Newark, N.J.

Entered as second-class matter January 5, 1951, at the post office at Chicago, Illinois, under the Act of March 3, 1879.

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The Journal of FINANCE

Vol. VII MARCH 1952 *No. 1*

A FEDERAL DEPARTMENT OF FINANCE—A PROPOSAL*

ERIC W. LAWSON
Syracuse University

THE MARCH, 1951, ISSUANCE of 2¾ per cent non-marketable Treasury bonds brought to a halt, for the time being, the most recent outcropping of what has been a perennial conflict, both here and abroad.[1] It is reasonable to assume that the March action has neither eliminated the treasury-central bank controversy in the United States, nor pointed the way to a general solution. These two agencies were, and are, farther apart than a mere ¼ per cent in the interest rate.

This paper is concerned with the administrative aspects of the treasury-central bank disagreement, with particular reference to the United States.[2] It is proposed that a single new executive department be created to take the places of the Treasury Department and of the Board of Governors of the Federal Reserve System. The feature of this proposal is that neither the Treasury nor the Federal Reserve would be subordinated, nor would either be independent. As background for the details of the proposal, let us examine the nature of the problem.

I

The question as to which should be superior, treasury policy or monetary policy, has been with us ever since British monarchs

* The writer wishes to express his indebtedness to Professor Lawrence Ritter, Department of Economics, Michigan State College, for much helpful criticism in the preparation of this paper.

1. *New York Times* (March 4, 1951), sec. 1, p. 1, col. 8.

2. It is an acceptable thesis that some of the administrative difficulties have stemmed from a lack of understanding of the theoretical issues. The struggle has not been entirely motivated by a desire for bureaucratic power. On the contrary, sincerity has characterized the participants. Administrative reorganizatons cannot take the place of continuing research and analysis. Cf. Woodlief Thomas, "Lessons of War Finance," *American Economic Review,* XLI (September, 1951), 619, and the literature cited there in footnote 2.

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sweated the coinage of the realm in order to shore up an improvident budget. This problem has been settled in many countries in modern times by making the treasury the predominant authority. A wave of central bank nationalization has swept the world since the end of World War II. This movement has been almost as evident among the democratic countries as among the "iron curtain" countries. In Australia, for example, the nationalizing legislation specifically stated that the central bank was being made subservient to the treasury because the central bank had failed to assume its full responsibilities in the past.[3]

The controversy, wherever and whenever found, is rooted in the fact that the same agency, centralized government, has power and responsibility in two fields which today are generally considered to be well-nigh inseparable but which were torn apart by nineteenth-century political practice. This practice, activated by the desire for an automatic, tamper-proof monetary system, allocated fiscal matters to the treasury and monetary matters to the central bank. This was an unnatural division existing more in law than reality. The persistent growth of the size and scope of fiscal activity has merely served to emphasize the affinity of the two fields.

There are several ways in which the current edition of this long standing schism may be distinguished from its predecessors. The passing of the gold standard in the thirties, however, provides the most important demarcation. The major issue is no longer one of an automatic system versus a managed system; the issue now revolves around the question of who is to do the managing. Admittedly, this question also involves to a large degree theoretical problems concerning the results to be expected from each of several alternative policies. Yet, a paramount question at the moment is whether an independent body of experts is to exercise the discretion of management, or whether such prerogatives should be located within the channels of democratic government.

II

The Subcommittee on Monetary, Credit, and Fiscal Policies of the Joint Committee on the Economic Report, the so-called Douglass

3. Miroslav A. Kriz, "Central Banks and the State Today," *American Economic Review*, XXXVIII (September, 1948), 573. See also Roland I. Robinson, "Central Banks and the State Today: Comment," *American Economic Review*, XXXIX (March, 1949), 494–96.

Committee, attempted to meet this administrative problem.[4] The Subcommittee recommended to Congress that it declare that[5]

> the primary power and responsibility for regulating the supply, availability, and cost of credit in general shall be invested in the duly constituted authorities of the Federal Reserve System, and that Treasury actions relative to money, credit, and transactions in the Federal debt, shall be made consistent with the policies of the Federal Reserve.

In addition, in order to provide a backboard of consultation and discussion on appropriate policies and actions, the Subcommittee recommended that a national Monetary and Credit Council be appointed. Such a Council would include the Secretary of the Treasury, the Chairman of the Board of Governors of the Federal Reserve System, the Comptroller of the Currency, the Chairman of the Federal Deposit Insurance Corporation, and the heads of the other principal federal agencies which make and/or guarantee loans. This Council would report to Congress, and would be headed by the Chairman of the Council of Economic Advisers. Its purpose would be purely consultative and advisory and it would not have directive power over its members.

On the surface this proposal appears to provide for a unique package of co-ordination and co-operation among all of the various financial agencies of the government. Closer examination, however, reveals two fundamental objections. In the first place, and of chief importance, it essentially subordinates the Treasury to the Board of Governors on major issues of governmental policy. This subordination is considered here to be a mistake of the first magnitude. This point will be discussed more fully later in this paper, but it may be noted that Congress has not ordinarily found it desirable to place powers capable of checkmating its will in an independent board of experts. The second objection to be found in this proposal is that it

4. *Monetary, Credit, and Fiscal Policies, Report of the Subcommmittee on Monetary, Credit, and Fiscal Policies of the Joint Committee on the Economic Report,* 81st Congress, 2d Session, Senate Document No. 129, *passim.* A second inquiry, covering topics similar to those reviewed by the Douglas Committee, with particular reference to the March "accord" announced by the Treasury and the Federal Reserve System, has recently been launched by the Subcommittee on General Credit Control and Debt Management of the Joint Committee on the Economic Report, now known as the Patman Committee. The fact that such an inquiry should follow so closely upon the first may be interpreted as an indication that the findings of the first inquiry were either not completely satisfactory, or were temporal in character. See *Questions on General Credit Control and Debt Management, Subcommittee on General Credit Control and Debt Management of the Joint Committee on the Economic Report,* 82d Congress, 1st Session, Joint Committee Print, pp. 1–3.

5. *Ibid.,* p. 1.

probably will not do what it is supposed to do. The Council is responsible for advice and counsel, but it is not responsible for programs nor results. This type of arrangement does not have a good performance record in other situations and there is little reason to believe that it will operate here.[6] There is no reason to believe that the Treasury viewpoint will prevail any less on the Council than the Reserve position. But, since the basic idea of the Subcommittee's proposal is to let the Federal Reserve viewpoint be the dominant one, it is entirely possible that the advice of the Council will either go unheeded, or the President and Congress will contravene the Federal Reserve—and the previously expressed will of Congress.

Purely from the standpoint of administration, one body should be endowed with final authority over monetary matters, subject to presidential supervision and ultimate congressional review. This means that if a Monetary and Credit Council is to be established, it should be the final authority and its decisions should be based on a majority vote and should be binding on the constituent agencies. If the Federal Reserve System is to be the final authority, the creation of a Council is at best redundant and at worst a violation of responsibility. To require that the Board of Governors consult with the other credit agencies of the government would be appropriate. To provide a Council as recommended is to separate authority from responsibility.

III

The final solution to this broad problem is not in sight. The issues are fundamental and not completely understood. However, an administrative reorganization should serve two purposes. In the first place, it should eliminate the chief administrative difficulties which have beset recent fiscal and monetary operations in the United States. In the second place, in eliminating the administrative issues it should make possible greater concentration on the theoretical issues, which at the same time would be more easily delineated.

The creation of a single agency in the executive branch of the government which would incorporate all of the significant monetary, credit, and fiscal powers of the government should accomplish these

6. The proposal for a Council is in line with the recommendations of the so-called Hoover Commission, of *Activities and Organization of Lending Agencies of the Government, Task Force Report (Appendix R)*, The Commission on Organization of the Executive Branch of the Government (Government Printing Office, 1949). For a pertinent comment on the idea of interagency committees see the dissent of Commissioner Rowe, *Treasury Department, a Report to the Congress by the Commission on Organization of the Executive Branch of the Government* (Government Printing Office, 1949), p. 3.

objectives.[7] This new department would take the place of existing agencies, including the Treasury and the Board of Governors, so that duplication would not result, but, rather, existing duplication would be eliminated. This new department, say, the Finance Department, would be headed by a cabinet member and could be organized around the main functions to be co-ordinated. These functions are fiscal (treasury), monetary (central bank), and credit (government lending agencies).

The essential point of the proposed organization is that prime responsibility, apart from the Congress and the resident, would be vested in the same agency for all government aspects of the monetary-fiscal problem. It makes little difference to this new arrangement whether the non-fiscal and non-monetary activities of the Treasury as now conducted should be left with the new agency or transferred to other agencies. The functions now performed by the Board of Governors would be appropriate to the new agency in their entirety, including the functions of the Open Market Committee. Since standards of bank chartering and supervision have a bearing on monetary policy these should be transferred to the new agency. There would be minor gains in the elimination of overlapping activities, particularly in the research, statistical, and information areas.

The position of the individual Federal Reserve District Banks would not need to be disturbed. Of course, complete nationalization of the system would provide for a more homogeneous structure. But, so long as the Finance Department has effective control over their activities there would be no need to change their ownership status. Some reorientation of the non-member banks with respect to their reserves would be a desirable part of the present proposal, though not essential.

The specifications for that division of the new agency which would concern itself with the matter of making loans or of making loan guaranties would differ from the specifications of the existing loan agencies in that the substantive aspects of many such agencies would not be transferred to the new department. Specifically, the entire

7. Certain aspects of the proposal made here were suggested to the Douglas Committee in various forms. See *Monetary, Credit, and Fiscal Policies, A Collection of Statements Submitted to the Subcommittee on Monetary, Credit, and Fiscal Policies by Government Officials, Bankers, Economists, and Others.* Joint Committee on the Economic Report, 81st Congress, 1st Session, pp. 392 (Hart), 409 (Mints), 421 (Mints), and 422 (Shaw). Also see testimony of Eccles before this subcommittee for a philosophic view of the basic role of central bank policy and operations, *Monetary, Credit, and Fiscal Policies, Hearings before the Subcommittee on Monetary, Credit, and Fiscal Policies of the Joint Committee on the Economic Report,* 81st Congress, 1st Session, p. 231. Brief acknowledgment of these various suggestions was given by the Subcommittee in its *Report,* see p. 30.

operations of the Reconstruction Finance Corporation could be taken over by the new agency, but very little of the Housing and Home Finance Agency, for example, should be so transferred.[8]

The case for vesting the new department with strong powers in the field of government lending and loan guaranteeing rests on the proposition that such activities have substantial monetary significance. As of June 30, 1949, the major credit agencies had outstanding loans, loan guaranties and commitments exceeding $26.5 billion and had a potential for further expansion of $14 billion.[9] A monetary and fiscal program of the government which makes a real attempt to use governmental powers for effecting economic stability cannot ignore the potentialities of such activity. On the contrary, it must make positive use of them.

This new department would serve as the "banker" to the operating agencies of the government which are engaged in lending activities. As such, definite lines of credit could be established for stipulated programs for definite periods of time. It would be the responsibility of this department to consult with the Council of Economic Advisers and with the Bureau of the Budget for the purpose of making recommendations to the President and Congress as to the advisability of extending, lengthening, or shortening lines of credit in the aggregate from year to year. The substantive nature of the programs would not be the subject of such recommendations, but rather the over-all economic effects stemming from the monetary aspects thereof. Discretionary power to alter the "lines" within limits might be vested in the President, to be exercised in the event of an emergency, such as a rapidly changing employment or price situation. Operating in this manner, this new department would be the seat of both responsibility and authority for the monetary management activities of the government, subject to presidential and congressional review and determination.

A major advantage to be derived from the new arrangement, par-

8. The basis for this distinction lies in the character of the lending agencies. Those agencies which are primarily financial would be candidates for complete transference. Those which not only operate in a lending and guaranteeing capacity, but which also have definite programs to accomplish would not be completely transferred. Thus, there is a substantial difference between making a loan to a distressed corporation or the guaranteeing of a real estate mortgage on the one hand and the promotion of a slum clearance project on the other. Both have financial aspects, but the latter also has an operating program associated with it. It is not the intent of this proposal to place the program aspects of any agency within the confines of the new department, but rather to give the new department such financial control that the ebb and flow of the program agency's "capital" may be integrated with the total economic and financial budget of the government.

9. *Report*, p. 47.

ticularly the "line of credit" device, would be the possibility of making a comprehensive review of the total financial activities for which the government is responsible. A government agency charged with a substantive program to be carried out by the extension of credit might be likened to a commercial bank customer who applies for a loan or a yearly line of credit. The Finance Department Secretary would act as the loan officer of the bank and Congress as the board of directors. It would be possible for Congress to follow, or to ignore, the recommendations of its "chief loan officer," but it would do so with full knowledge of the total credit picture—something which is lacking today.

This proposal to make the Finance Department a "bank" for other departments of the government is akin, in many ways, to the proposal made by Professor Hicks with respect to the budgeting for British governmental "trading departments."[10] These departments find it necessary to operate with "capital," to carry inventories, and to report either profits or losses. Hicks proposes that the Exchequer serve as a "bank" for such departments and that the original outlays be carried as capital accounts. Increases or decreases in their capital would be appropriately recorded, whereas losses or profits would be treated as current items in the budget. The total governmental financial picture would include the total cash operations of the trading departments.

In addition to correcting some accounting difficulties currently faced by the British Exchequer, Professor Hicks's proposal would, more importantly, provide a device for anti-cyclical control and analysis. As he says,

> ... it becomes abundantly evident that we shall get no sound finance, and no sound anti-cyclical finance, unless this is done. What one wants, for the general purposes of sound finance, is that the entire financial responsibilities of the government should, at a certain stage, be brought under comprehensive review.[11]

Concerning the role to be played by the Treasury, he says,

> ... the Treasury should be prepared to be an easier source of funds than a commercial bank would be; but it ought to be prepared, on occasion, to be stonier-hearted, since it ought sometimes to refuse opportunities for "profitable" lending which a commercial bank might find it hard to refuse, when it was deemed desirable to postpone expansion in the national interest.[12]

10. J. R. Hicks, *The Problem of Budgetary Reform* (London: Oxford University Press, 1948).

11. *Ibid.*, p. 45.

12. *Ibid.*, p. 47.

IV

Some of the implications of having a new Finance Department as proposed in this paper need to be examined. The creation of one office charged with the responsibility of administering the financial activities of the government as a whole would bring together management and responsibility. The practice of government by experts would be repudiated. No longer would a Treasury Department be able to take a particular position which is beneficial in the short run to the immediate fiscal problems of government and ignore over-all results. No longer would a Board of Governors be able to take a position which looks to the maintenance of certain monetary objectives regardless of their effect on governmental fiscal operations. The chips would no longer "fall where they may"; they would now fall back in the Finance Department's wood lot and as such could not be ignored.

As constituted in the past, and at present, the Treasury Department was and is primarily responsible for the fiscal aspects of government finance and only secondarily responsible for the monetary aspects, despite the fact that the former have become increasingly inseparable from the latter. Likewise, the Board of Governors has primary responsibility for the monetary aspects of governmental finance and secondary responsibility for the fiscal aspects. Both agencies are presumably charged with some responsibility for the economic welfare of the country, which responsibility has, since 1946, been legally vested in the Council of Economic Advisers. As a result it has been inevitable that the operations of the financial agencies should be directed along relatively narrow paths. It has also been inevitable that the goal of economic stabilization (in peacetime) should be difficult to reach because of the presence of conflicting and narrowly defined policies in the fiscal and monetary areas.[13]

The proposal herein made flies in the face of the traditional stand that a treasury cannot be trusted with a monetary system. This stand which had ample justification in the activities of many European chancellories during the budding days of modern nationalism was fortunately not incorporated in our Constitution. It is Congress, in

13. It should be completely understood that neither this proposal nor any of the discussion in this paper is intended to imply that the problem of economic stabilization will be solved completely by monetary and fiscal devices. If this were the thesis of this paper the logical step would be to recommend the abolition of the Council of Economic Advisers. On the contrary, it appears axiomatic that the task of the Economic Advisers is infinitely complicated if it must contend with numerous agencies pulling in different directions at all times. This may be expected as normal human behavior in many areas, but it should not be tolerated in a field with such integrated interests as prevail in the fiscal and monetary areas.

the last analysis, which determines the broad position of the United States Treasury. For Congress to set up an independent body to keep it, Congress, from doing what it would otherwise want to do is a partial abdication of constitutional responsibility. To use an independent board of experts as a "conscience," or as a whipping boy, is not within the framework of democratic government. The Supreme Court, equipped with the Constitution, has long been recognized as the proper body for checking the will of Congress.

A word may be said about the role of the President in the proposed arrangement. Currently, the Secretary of the Treasury is his agent in fiscal affairs. Such can scarcely be said of the Board of Governors with respect to monetary matters. Yet the President is responsible, as the chief executive, for the condition of the nation's monetary system. With this entire responsibility delegated to an agent over whom he has control his position would be both strengthened and clarified. Not only could he take action when necessary, but his failure to do so could not be attributed to a lack of power. His power would be made more commensurate with his responsibility.

V

This is admittedly a radical proposal, particularly for the United States government. Its advantages in the area of co-ordination should be obvious. Our present governmental structure in the field of money, credit, and fiscal operations is a patchwork dedicated to the proposition that governmental fiscal operations are one thing, governmental credit operations are another, and governmental banking and monetary activities are still another. This proposition may be said to have died in theory, but to remain as the guiding hand of governmental practice.

The proposal would not legislate fiscal-monetary conflicts out of existence, but it would contain them within a single operating department where they could be resolved in the manner employed by all executive departments, public or private. The total financial activities of the government would be brought into clear focus so that responsibility and authority would be in the same hands. One body would be endowed with final authority over the monetary and fiscal matters of the government, subject to presidential supervision and congressional review. For disbelievers who object that too much authority would be concentrated in one place, it should only be necessary to point that all of the power so centered is presently being wielded with little restraint and less co-ordination, a condition vastly more dangerous than intelligently responsible concentration.

POPULATION MOVEMENTS AND INVESTMENT (II)*

JOSEPH J. SPENGLER
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IV. THE GEOGRAPHICAL REDISTRIBUTION OF THE AMERICAN POPULATION

UP TO THIS POINT we have been considering the growth of population in the United States, but have not discussed its redistribution. For some parts of the country are growing while others are declining in population. Let us first review the main trends with respect to redistribution as revealed by the decennial census taken last year. I shall approach the subject by trying to identify those parts of the country which appear to be slated for growth, and those which evidence little growth potential, whatever happens to be their rate of natural increase. For, by and large, the place to invest in for many purposes is the place where population is growing.

Because of the pressure for capital arising from foreign sources and because of our heavy taxation, I would expect interest rates to remain firm and probably to feel some upward pressure for several decades at least.

I do not believe that profit rates will be affected by the slowing down of population growth in so far as profit depends upon risks and uncertainties. The slowing down of the rate of population growth should, however, reduce the significance of the growth factor for many industries unless they can devise new products and so start up on a new growth curve which is largely independent of population for a while. Perhaps television is a case in point. Even so, the profit-interest ratio should favor investment in equities, and this in turn should strengthen interest rates.

A. STATE AND REGIONAL

Four states experienced population losses in 1930–40, Arkansas, Mississippi, North Dakota, and Oklahoma. Eleven other states registered an increase of less than 7 per cent, which is less than half the national average of 14.5: Vermont, Pennsylvania, Minnesota, Iowa, Missouri, South Dakota, Nebraska, Kansas, West Virginia, Kentucky, and Montana. With the partial exception of Minnesota, none

* Part I of this article appeared in the December, 1951, issue of *The Journal*.

of these states has shown much percentage growing power since 1920. At the other extreme we find the Pacific Coast states, New Mexico, Arizona, Utah, Nevada, Florida, Virginia, Maryland, and Michigan, with increases of over 20 per cent. However, when we rule out states on the ground of smallness, we are left with only the Pacific Coast and Florida, Virginia, Maryland, and Michigan, with some of the growth in Virginia and Maryland due to the expansion of the governmental bureaucracy in Washington. If we included all states which have grown 400,000 or more we would have to add New Jersey, Ohio, Indiana, North Carolina, and relatively slow-growing New York, Pennsylvania, and Illinois. In general, therefore, if one looks just at the states and the groups of states, about all that one can conclude is that the West is growing much faster than the rest of the country and that one-fourth or more of the states have been growing at rates far below the national average for thirty years.

B. THE COUNTIES

We may turn next to the counties. We find that of the country's 3,103 counties, 1,543 lost population in 1940–50, and 720 lost 10 per cent or more. Of the 1,560 growing counties, 864 gained 10 per cent or more, 498 gained 20 per cent or more, and 28, all in the South or West, 100 per cent or more. The growing counties were distributed somewhat differently than the growing states. Of the 217 northeastern counties, 82 per cent showed gains; of the 414 western counties, 61 per cent; of the north central counties, 44 per cent; and of the southern counties, 47 per cent.

C. RURAL-URBAN

While various factors have affected the spatial movement of the population, there is one characteristic which most of the counties that lost population have in common. Most of them are rural in character. The proportion of the population that is rural has steadily decreased; on the old definition, which defined as urban only those living in incorporated places of 2,500 or more, 43.3 per cent of the population was rural in 1940 and about 41 in 1950. This definition has been considered inadequate, however, since it excludes both people living in unincorporated places of 2,500 or more and people living in the thickly settled areas (with populations of 2,000 or more per square mile) around cities of 50,000 or more. On this definition, 64 per cent of the population was urban in 1950, with the percentage ranging from 80 in the northeast to 49 in the south, and, by state,

from 87 in New Jersey to 27 in North Dakota. In only 17 states are less than half of the people living in urban communities.

That the trend is cityward is better suggested by the data relating to the rural farm population; for this is the truly rural population, since much of the rural non-farm population lives in essentially urban areas. The rural-farm population declined from 23.1 per cent in 1940 to some 17 per cent in 1950; and the decline is likely to continue until perhaps only about one-eighth of the population will be rural farm. That this outcome is to be expected is suggested both by the past trend and by the fact that in the South, and in a few states outside the South, the farms are too small for present-day methods and the farm population is too large. These excess farmers will gradually be dislodged in the sense that their children will leave the farms, and the smaller farms will be combined into larger units, with the number of acres tended per farmer increasing. We may look forward therefore to a time when not over 11–13 per cent of the population will be rural farm, when maybe 2–4 per cent will be rural non-farm, and when perhaps 85 per cent will be urban under the new definition. How soon this outcome is realized will depend upon whether we have peace and upon how good business conditions are, since people tend to move out of rural farm areas in war periods and when times are good; it will also depend upon how fast improved methods of agriculture are introduced and farm consolidation is carried out.

The tendency for the population to become concentrated in and within urban centers is suggested by another set of statistics.

Population Places	Places Incorporated, 1950	Cumulated Population No. in Millions	Cumulated Population Per Cent	Places Inc., 1940	Population Cumulated in Per Cent
1,000,000+	5	17.3	11.5	5	12.1
500,000+	18	26.4	17.5	14	17.0
250–500,000	39	34.1	22.6	37	22.9
100–250,000	106	44.0	29.2	92	28.8
50–100,000	231	52.8	35.0	199	34.4
25– 50,000	474	61.3	40.7	412	40.0
10– 25,000	1228	72.9	48.4	1077	47.6
5– 10,000	2319	80.5	53.4	2042	52.7
2,500–5000	3873	86.0	57.7	3464	56.5

However, the data reveal no marked trend in the past decade. If the unincorporated places are included, we get 477 instead of 474 with 25,000 or more inhabitants. Within these places live 61.4 millions, or 41 per cent of the population. The concentration of the population is suggested also by the fact that of the 69 million people living in the

nation's 157 urbanized areas, 37.6 live in the twelve largest, each of which runs over a million.

These figures do not tell us very much about the trend, however. They merely indicate the degree of concentration. The movement toward concentration is best evidenced by the growth of the 168 metropolitan areas within which lived 84 millions in 1950. Seven of these 168 lost population and the remaining 161 gained, with 90 of them showing an increase of 20 per cent or more. About 81 per cent of the nation's population growth took place within the metropolitan areas. This is the pattern.

Area	Population Increases, 1940–50		
	Number	Per Cent Increase	Distribution
United States	18,186,317	14.3	100
Standard metropolitan areas	14,653,382	21.2	80.6
Central cities	5,652,053	13.0	31.1
Outlying parts	9,001,329	34.7	49.5
Outside standard metropolitan areas	3,532,935	5.7	19.4

These data show, in short, that most of the growth was concentrated in the metropolitan areas, but that the bulk of the growth took place in areas lying outside the central cities.

On the basis of what we have said, certain conclusions stand out. These conclusions are based upon the supposition that if the population of a unit has continued to grow significantly for the past two or three decades, it may be expected to continue to grow; and that if it has not, it is not likely to in the future in the absence of some specialized intervention. The places most likely to grow therefore have the following characteristics:

1. They are in urban areas, not in rural areas.
2. They are not situated in declining counties.
3. They are situated in standard metropolitan areas, and not outside these areas.
4. They are more likely to grow rapidly if situated outside the central cities of these areas than within these cities.

These observations are borne out also by data relating to the growth of population by the economic areas within the forty-eight states. The country is divided into 443 such economic areas. Of these areas 338 showed population increases, 220 showed increases of 10 per cent or more, and 120 of 20 per cent or more. Of the 105 areas that lost population, only 21 lost 20 per cent or more. The West and South have most of the fast-growing areas. Sixty per cent of the western economic areas grew 20 per cent or more, and 30 per cent of

the southern. Only 18 per cent of the north central economic areas and 9 per cent of the northeastern experienced this much growth. One gets the impression that the heaviest growth was found in the states making up the outer border of states in the West and the South and the East, with the heaviest relative gains in the West; the growing areas are urban in character. These data are essentially in line with the ones just presented.

D. WILL THESE TRENDS PERSIST?

One can never say for certain that a trend will persist, for it is always possible that some fundamental change may arrest a trend. It is likely, however, that the trends to which we have called attention will persist. They would be seriously modified only if the government, finally becoming sufficiently alarmed at possible atomic attack, would seek protection in the dispersal of industrial activities and would provide the heavy subsidies which such a dispersal would entail. Until this happens, the trend is not likely to be modified greatly. If it happens, heavy growth will take place within the interior of the country. If we learn to use ocean water, the present water shortage of the West will be relieved and growth will be stimulated. If we learn to use solar energy, or to transmit power long distances, or to carry the power materials far, as in the case of fissionable materials, the growth of the Southwest will be stimulated.

E. IMPLICATIONS OF THESE TRENDS FOR INVESTORS

There are certain types of investment which are especially favored by population growth—investment in housing, in consumer-oriented economic activities, and in other economic activities carried on to serve nearby populations. The population trends described suggest that there are some areas admirably suited to population-oriented investment and other areas which are not at all suited to such investment. These population trends do not have too much significance, however, for types of investment which are not affected appreciably by where population locates.

A few additional observations are in order concerning the redistribution of population taking place within the framework of the metropolitan area and the area surrounding it. These relate to trends that, Bogue's studies show, seem to be manifesting themselves and concerning which we shall have more evidence after recent census returns have been analyzed.

1. There has been a strong suburbanward movement.

2. The rural-farm population has tended to grow within the 25-mile zone of metropolitan centers.

3. The population of places 45–64 miles from the metropolitan centers has tended to grow little, because they are too far from the city to serve as suburban residential areas, and yet too close to be free of urban competition in retail selling.

4. Urban centers situated 65 miles or more from metropolitan centers appear to be growing, being assisted therein by the automobile and their removal from the competition of large cities.

5. While there is no evidence of population dispersion, there is evidence that greater growth rates may manifest themselves in hinterland urban areas sufficiently removed from big urban areas to develop an independent existence. There has not yet been enough time for improvements in transportation to exercise fully their possible effects upon the distribution of population around large centers or upon the development of hinterland cities. Perhaps analysis of the results of the 1950 census will reveal what is in prospect.

V. Changes in Age Composition and Their Effects

One of the most significant of the population changes taking place is the increase in the relative number of older persons and decrease in the relative number of younger persons in the American population. The change is signified by the fact that the median age of the population, about 30.1 in 1950 as compared with 29 in 1940, has risen by 50 per cent since the time of the Civil War; it may rise to 37–38 by the year 2000. The ratio of persons 60 and over to persons under 15 rose from 0.2 to 0.45 between 1900 and 1950, and it will rise appreciably more. The causes of this change are threefold: (1) the decline in immigration; (2) the decline in the birth rate, the most important factor, which, though reversed in the past decade, has reduced the relative number of persons in the younger age bracket; and (3) the drop in the crude death rate which has fallen over a third in the past four decades. Note, however, that although the decline in the crude death rate has been the result both of great decreases in infant and child mortality and of marked decreases in the age-specific death rates in the middle and the old age brackets, it has not yet greatly modified the age structure, since the number of young as well as old survivors has been increased. Expectation of life at birth as well as at high ages has increased greatly. For example, the expectation of life at birth in the original registration states rose from 49.2 years about 1900 to 67.2 in 1948. The expectation of life at age 45

rose from 24.8 years in 1900 to 28 in 1948; and the expectation at age 65 rose from 11.9 in 1900 to 13.4 in 1948. It is expected that in the 1950's a year will be added to expectation at age 65 and about two years to that at age 45.

The improvement experienced up to now in the expectation of life has been due largely to reductions in the incidence of death among infants, children, and those in early adulthood. The improvement has been the result less of advances in medicine as such than of the amelioration of man's immediate environment and of the removal of sources of infection. The virtual elimination of diseases like typhoid, of course, has contributed indirectly to the prolongation of life; for these diseases tend to impair vital organs and make the recovered victim of the disease much less resistant to other troubles.

Further improvements in longevity will come about because of improvements in medicine, surgery, control of infection, and so on. They will no longer be the result, so largely as in the past, of continuing improvement in the physical environment as such. In 1948 the expectation of life among white males was 65.5 at birth and 22.4 at age 50. Let us now suppose that various diseases ceased to be causes of death. Then, the Metropolitan Life Insurance Company reports life expectancy be prolonged about as follows:

Disease	Years Added to Life Expectancy at	
	Age 0	Age 50
Cardio-vascular-renal	9.8	10.0
Cancer	1.8	1.7
Accidents	1.8	.5
Tuberculosis	.5	.3
Diabetes	.2	.3
All five	14.1+	12.8
Resulting expectation of life	79.6	35.2

How many aged will there be in the United States, on the basis of mortality estimates which already have proved somewhat too high? We shall have at least the following numbers aged 65 and over.

	Millions
1940	9
1960	14
1980	19
2000	22

I shall not attempt estimates of those in the younger age groups, since these are not yet born, and since our primary concern is the net economic effect of the prospective increase in the relative number of older persons.

A. EFFECTS UPON CONDITIONS AFFECTING PER CAPITA OUTPUT

The movement of per capita output depends upon many things, one of which is the age composition of the population. A population may be divided into those who are productive and those who are unproductive. If one uses as crude criteria of productiveness certain age limits, we may classify those under 15 or under 18 and those aged 65 and over as unproductive. This is only a rough classification, especially for those aged beyond 65, since a considerable number of these still remain in the labor force. For example, in 1950 31 per cent of those aged 14–19 were reported in the labor force, and 23 per cent of those aged 65 and over; corresponding figures for the male population were 39 and 42. It may be said roughly that the level of per capita productivity will fall if, other conditions being given, a decline takes place in the ratio of productive persons, measured by the number of persons in productive-age groups, to the total population. This index, of course, does not reflect all relevant factors such as the occasional tendency for an increase in woman workers to offset the decline in male workers.

It has been asserted that the aging of the population will cause a decline in the level of per capita output. This could happen, given certain population movements, but it is unlikely to happen. For example, a study, in which I took account of variations in employment with age of worker, of variations in the productivity of employed workers classified on the basis of age, and of prospective changes in age composition, suggests that, so far as age changes are concerned, output per capita will move about as follows:

1940	100
1960	101
1980	106
2000	107

While these rough findings do not permit us to argue that prospective changes in age composition will increase output per capita, they do suggest that it is unlikely and unnecessary that such changes diminish output per capita, provided that our business and labor and political leadership is intelligent and our economy is run skilfully.

This argument is a contingent one, however; for it makes no difference how productive a man can be, if he is denied employment in consequence of his having attained some arbitrary age. There are a number of reasons for such arbitrary and unwarranted denial of employment. First, as was reported a year ago in the *United States News* and as has been reported elsewhere, the pension schemes being

introduced by industry are making employers increasingly hesitant about hiring workers near the pension age, and, more generally, workers who are 40 or more years old and who have lost or given up a previously held job. These reports are borne out only in part, however, by the 1950 census returns, according to which unemployment among those over 55, just over 5 per cent, exceeds by less than two points the unemployment reported among those aged under 55, with much the same relationship obtaining also in the male population. It appears to be true, however, that the kinds of pension plans being introduced are operating and will operate to keep displaced older workers in the ranks of the unemployed; and this tenedency will be accentuated provided that the plans do not permit the worker to carry his pension rights with him. In my opinion, one of the most weighty of the social obligations of insurance companies is the devising of private pension plans that do not produce labor immobility, that do not check worker-displacing technological progress, and that do not operate to increase the probability of unemployment among older workers. If insurance companies do not devise suitable plans, it probably would be better for the government to do the job. The evils of an early retirement system may be observed in French employments in which the relative number of pensionees is very high.

A second, though less clear, factor is the attitude of trade unions. So long as there is full employment as at present, there will not be much pressure from the unions for early retirement. (I disregard proposals, such as one reportedly made by the United Mine Workers, that pensions become applicable upon voluntary retirement, even though able-bodied, at the age of 60.) If, however, unemployment increases significantly, some trade-union leaders are likely to ask for early retirement pension provisions, hoping thereby to make labor scarce and consequently improve the bargaining position of the crafts or industrial groups in question. Trade-union leaders acting in this fashion would proceed on the assumption that the displaced older worker can be supported out of his industry pension rights and such other old age benefits as he has accumulated and that, if these sources are inadequate, the federal government could be induced to supplement them. If action of this sort were taken, it would, of course, serve to reduce appreciably the size of the national income and the capacity of the government to increase its aggregate take. If, fifteen years from now, workers retired at the then age of 60, the national income would be about one-tenth below what it would have been had they continued to retire at about the ages ruling in the early 1940's.

A third factor consists in the rules regulating receipt of "social security." These rules should not be permitted to put a disability upon individuals who wish to continue working. In fact, every effort should be made to contrive a system of social security that puts a premium upon working.

Fortunately, increasing attention is now being devoted to the prolongation of industrial life. For example, it has been proposed that employers who employ older workers be subsidized, though this recommendation has sometimes been based upon the often invalid assumption that older workers are less productive than younger workers. If a subsidy is employed, then the cost should be met through a special equalizing tax upon industry with the returns earmarked for this purpose, and with the tax rate differentiated so as to encourage the employment of older workers; it should not be a charge against the general revenue. Differential wage schemes designed to reflect differences in productivity associated with age may also be employed.

The important point we must keep in mind is that the sciences of geriatrics and gerontology are not yet advanced far beyond the stage of infancy. We may look forward, therefore, to a time when people will be about as effective in their sixties and perhaps even in their seventies, as they were earlier in life, since the greater responsibility and experience that accompany age offset, in many occupations, the adverse physiological and psychological effects of aging. Every effort should be made to keep people employed until they are 70 years of age, and probably longer in many instances. The representative American may be said to be born to work. Such is the dictate of his culture. His social standing, his status and his conception of his industrial role in society depend in considerable degree upon his occupation and its practice. If its practice is denied to him, an important reason for his living is removed, and his mental and physical condition is affected accordingly. It is extremely important, therefore, in a society shot through with the values prevailing in this country, that the working capacity of the older worker be prolonged and enlarged by the applied sciences, and that industry in turn provide the worker with opportunity to exercise his occupation until he is ready to retire.

B. EFFECTS UPON PROVISION FOR THE SUPPORT OF THE AGED

I have already indicated that the worker should be kept employed as long as possible, until and beyond the age of 70 if circumstances

permit. If this is done, the pension and the retirement problem will not be so serious.

Let us suppose, however, that a great many workers are discharged before they have reached the age of 65 or 70. What effects will ensue? For one thing, the national income will be much lower (5–10 per cent) than it would have been, and the aggregate demand for labor and for various commodities will be reduced in like measure. In general, if older persons are kept productively busy, there will be added to consumer and other outlays about as much as there is added to output, with the result that employment and production are augmented. In consequence fewer older persons find themselves in straitened circumstances and disposed to press for hand-out legislation.

When the worker is thrown out of work at a relatively early age, he is affected an an individual, and out of his and other individuals' reactions to forced early retirement there flows a collective effect. Consider first the individual effect. An individual worker, before he retires, must in effect accumulate enough claims to provide him and his wife with an annuity, or the equivalent, until they die. A reduction of five years in retirement age diminishes by roughly five years the time during which funds wherewith to purchase an annuity may be accumulated, and it increases by five years roughly the time during which the annuity must provide support.

Wolfbein's studies show that what is happening may be about as follows. In 1900 a white male aged 20 could look forward to 42.2 years of life, of which 39.4 would be spent in the labor force. By 1940 these figures had become 47.7 and 42, and by 1975 they may become 52.7 and 42.8–45.9. In 1900 a man could thus look forward to 14.1 years of employment and earning for each year of retirement; by 1940 this figure had become 7.4, and by 1975 it may lie between 4.3 and 6.8. Query: Can a man, or will he, save enough in the course of six to seven years to support him for one year?

If he cannot, a collective effect will be generated. For if workers are retired relatively early, they will get organized that much earlier into groups in search of old-age pensions out of the general revenue of the government. Early retirement means low retirement pay, and the real value of this pay is likely to be steadily diminished by inflation so long as the legislatures of contemporary welfare states acquiesce in the demands of pressure-groups for handouts while failing to provide the necessary tax revenue. Even in the absence of inflation and in the presence of a relatively stable price level, retirement pay tends to undergo psychological contraction. Suppose an individual retires with a pension of $200 per month and lives fifteen to twenty

years thereafter. If per capita income is rising 1.5 per year, this individual, at the end of ten years, will find his constant income worth, in terms of the rising average income, only about six-sevenths of what it was at the time of his retirement. He will be psychologically poorer, he will feel poorer, and he will want to do something political about it; for he has been denied a share in the fruits of that collectively produced technical progress which has been responsible for much of the 16 per cent increase in per capita income.

Psychological poverty, together with its many unfortunate consequences, would not arise were the fruits of invention distributed largely in the form of lowered prices, the only form of distribution incidentally that is likely to insure the aged of a suitable share in the fruits of invention and discovery. This type of distribution formerly was defended in theory and somewhat supported in practice. Today, however, it seems to enjoy little repute or support. Those who would stabilize the price level usually would so stabilize it as to prevent this level from adequately reflecting diminutions in factor-input imputable to invention. Others seem to find esoteric virtue in a rising price level. In the market place where wages and prices are made it is now not uncommon for bargainers to act as if they were conniving to retain in their hands the fruits of whatever improvements have taken place in their industries, even though these improvements have had their origin in technical progress made outside the industry, and despite the fact that such price- and wage-fixing makes for an incorrect, welfare-reducing allocation of resources.

Returning to the collective effect producible by the relative lowness and the declining purchasing power of pensionees, it may be supposed, and the Townsend movement bears out this supposition, that pensionees who believe themselves to be getting poorer will act politically to correct their poverty. Persons aged 65 or more years probably can mobilize considerable political strength by 1960 already, for they will then number about 14 millions, they can probably muster another 14 million supporters, and they may be bound together by consciousness of a kind and a common objective. Yet, even though they succeeded in periodically increasing the money value of the pensions received by the aged, much of this increment would eventually be erased by rising prices. For, if government expenditures approximate in amount what can be raised through taxation under current politico-economic conditions, increments in budgetary allotments and governmental outlays for pensions will have to be financed with inflationary money. The purchasing power of pensions will shrink. Pensionees and other victims of inflation

will find themselves again under necessity of demanding additional government support. And so on. Under these conditions continuing inflation would be likely. How much such inflation capitalism could survive remains to be seen.

The solution for retirement, pension, and most related problems is very simple. Let the older worker be kept at work until he is 70 or more years old. Then he will be happy; and he should be able to accumulate enough of an annuity to support him and his appropriately until death provided, of course, that the forces of inflation are curbed. There is no other real solution, particularly since any prospective decline in the relative outlay upon children can afford little relief.

C. Upon the Composition of the Demand for Consumer Goods

Much has been written about changes in age composition and the demand for goods. That for goods favored by younger persons will decline, at least relatively, while that for goods favored by older persons will increase both relatively and absolutely. This observation is valid. The effects of changes in age composition upon the structure of demand can be anticipated in considerable measure. However, I am not inclined to attach great importance to changes in demand consequent upon changes in age composition. American industry is still elastic and flexible. So long as it remains this way we can count upon it to adjust its output of goods and services to changes in the pattern of demand, whether these changes have their origin in changes in age composition or otherwise.

VI. Other Changes in Population Composition Effects

A. Changes in Marital and Family Composition

Between 1940 and 1950 the number of married persons increased considerably, with the result that in 1950 the percentage of persons married had reached the highest level in history, at least for many decades, 68 out of each 100 males and 66 out of each 100 females being reported as married. The number of married couples increased much more rapidly than the population in 1940–50, rising by 24 per cent while the population was increasing only about 14.5 per cent.

This tendency for the number of married couples to increase faster than the population is due in part to the decline in the size of the family. Average family size has long been declining; it was 3.8 in

1940, and, according to some forecasts, it may have fallen to 3.1 by 1980.

Families will not be formed in as large number in the next decade as in the past one. During the past decade the average annual increase in the number of maried couples was 680,000; that of households, 757,000. The number of families must have increased nearly 700,000 per year, the census bureau putting the annual increase at about 660,000. During the 1950's, it has been estimated, families will be formed at a rate not much in excess of 400,000 per year; for there no longer exists a backlog of potential but unestablished families in the form of unmarried persons, and the lowness of the depression-years birth rate will be felt. Presumably, the number of households will increase somewhat more rapidly, for in 1950 there were 2,265,000 married couples without their own household. Suppose that half of these form households, and that 400,000 families are formed per year; then the number of households will increase some 500,000 per year, or at a rate just over two-thirds as high as in 1940–50.

The movement of the number of households is important, as has been indicated, because the rate of increase in the demand for housing, house furnishings, and various other items is conditioned by the rate of increase in the number of households. It follows, since households will not be formed as rapidly in 1950–60 as in 1940–50 and since this diminution may be accentuated by obligation of military service, that the pressure of demand for housing and house furnishings will be less intense in 1950–60 than in 1940–50.

Precisely how the demand for housing will be affected is not yet evident from the housing data that have been published up to now. Between 1940 and 1950, 8.5 million dwelling units were added, though a part of this increment was made by increasing the number of dwelling units in existing structures. Even so, excluding seasonal and dilapidated dwelling units, only 735,000, or 1.6 per cent of the reported 45,875,000 dwelling units, were vacant and being offered for rent or sale. Accordingly, if in the course of the present decade 800,000 additional dwelling units per year are added, while households are formed at a rate of only about 500,000 per year, there should develop pressure to remove out of use some 1.5 million dwelling units which are very low grade even by present standards. Only 74 per cent of all dwelling units and 82 per cent of all urban dwelling units have private toilet and bath, with hot or cold running water. In short, given the reported need for improved housing, the aggregate demand for new housing should hold up.

It is worth noticing that the continued decline in mortality is increasing the stability and well-being of the family and thereby making it a better financial risk and a more stable purchasing unit. In 1948, 667,000 marriages were broken by the death of husband or wife; yet had 1900 mortality prevailed, half again as many marriages would have been broken, or about a million. In 1948, 371,000 children became orphaned; this number would have been double had the death rates of 1900 prevailed in 1948. As the incidence of death below 55 is reduced the incidence of orphanhood will be reduced, togther with the length of the interval between the advent of orphanhood and the orphan's entering the labor force.

It is of interest also, while we are on the subject of families, to consider the course of the family cycle, which has been studied by Glick and others. I shall use 1940 data since 1950 data are not yet available.

Stage of Family Cycle	Median Age of Husband	Median Age of Wife
First marriage	24.3	21.6
Birth of first child	25.3	22.6
Birth of last child	29.9	27.2
Marriage of first child	48.3	45.6
Marriage of last child	52.8	51.1
Death of husband (wife)	63.6	60.9
Death of husband, if last	69.7	
Death of wife, if last		73.5

The typical size of family during middle age, 35–54, is 5, children and relatives being included in this figure; this number is somewhat lower when the family head is under 35. When the representative family head gets into the fifties the size of his family declines rapidly; and by the time he attains and passes 65, he and his wife are again living alone in half the cases. There is opportunity, therefore, for the family head to accumulate savings in the last 15 or so years of his productive life; and this opportunity begins even earlier in the event that other members of the family besides the head also contribute to the family income.

B. EDUCATIONAL COMPOSITION

School enrollment still falls short of the optimum level. The enrollment figures for 1940 and 1950 are:

	Percent of Persons Enrolled in School		
	Total		Nonwhite
Age Group	1950	1940	1950
5–13	81.4	84.1	79.0
14–17	84.4	79.3	68.2
18–24	18.6	13.3	9.1

Examination of the regional data indicate that the proportion in each age group enrolled in school is somewhat lower in the South than in the nation as a whole, especially the proportion in the age groups 14–17 and 18–24. The educational composition of a country or region is of significance with respect to the suitability of these areas for the location of certain kinds of industry. The available data are not very revealing on this score. Other studies suggest, however, that investment in advanced education, or its equivalent, probably is not yet carried as far as is economically justifiable in view of the capacity of education to increase the nation's productivity. This question calls for much more careful and detailed analysis than is possible on the basis of the available census data. Education stimulates the demand for capital by fostering invention and innovation.

C. OCCUPATIONAL COMPOSITION

Occupational composition is of significance when one is determining where to locate a new plant, though its importance tends to be somewhat exaggerated in view of the fact that American workers are quite mobile. From one month to the next, it has been estimated, the number of persons changing their status—that is, leaving or entering the labor force, becoming unemployed, or finding a job—approximate one-seventh or more of the labor force. In the year ending April, 1948, one out of every five persons had moved to a different home, with 1 out of every 15 changing his county of residence. Between April, 1949, and April, 1950, 17.3 per cent moved from one house to another, with 6.2 per cent changing counties. It appears, therefore, that something like 6 out of 100 persons change counties each year. Evidently, therefore, the American population is very mobile, since disposition to change of residence and disposition to change of occupational status are positively correlated. This high mobility probably is one of the factors responsible for the greatness of American productivity.

From the standpoint of investment perhaps the most significant aspect of the present occupational composition of the American population is where the greatest potential industrial labor supply is to be found, the availability of satisfactory labor being one of the most important of the elements governing new industrial location. This most satisfactory place is the South. First, there is still much concealed unemployment in southern agriculture, and these potential workers are available for industry. In the South 21 out of each 100 males in the labor force is engaged in agriculture; the comparable figure for the nation as a whole is 12.8. Undoubtedly use of improved

methods could easily release one-third of this agricultural labor force for industry and commerce. This would mean something like 1.2 million males; and if these were brought into the city there would be a considerable additional gain of by-product women. Realization of this gain will take a number of years, since the consolidation of farms can take place only after the older agriculturalists leave and the displaced younger ones have moved into non-rural occupations. There is also a second matter to consider, the prospective rate of growth of the labor supply. An index of this growth is furnished by the number of persons aged, say, 15–19 as compared with the number aged 20–64. In the United States as a whole this ratio is 0.156 while in the South it is .19; these figures suggest, therefore, that new workers are fed into the labor force about 190/156 as fast in the South as in the country as a whole, or at a rate 22 per cent higher. It appears, therefore, that the greatest potential labor supply is to be found in the South. Against this conclusion must be set the fact that the South is not quite so well equipped with professional and skilled personnel, but this defect is easily remedied through importation of this type of personnel when and as required.

D. INCOME COMPOSITION

The income composition of localities is important because of its significance for consumer-oriented industries. The median family income by region follows:

United States	$3,068
West	3,435
North east	3,362
North central	3,257
South	2,248

A wider range is found among the states. These data may be employed, along with others of the same sort, in determining the suitability of retail and service locations.

E. FOREIGN AND RACIAL COMPOSITION

While the foreign or ethnic composition of the population is no longer important with respect to industrial location, the racial composition remains of significance because of interracial differences in skill and training. These differences are diminishing, however. Moreover, the non-white population is becoming more evenly distributed throughout the United States; in 1940–50, because of emigration from the South, the non-white population outside the South grew

about $3\frac{1}{3}$ times as fast as that in the South. One long-run effect of this redistribution will probably be a diminution in the disadvantages under which non-whites still live.

F. INTELLIGENCE COMPOSITION

While no detailed analysis has been made, a study made fifteen years ago suggested that the differential rate of natural increase was reducing the average level of intelligence in the United States, and this conclusion was supported inferentially by other inquiries. Such a decline was predicted also in England about fifteen years ago; yet an analysis of recent data seems to indicate little change in the level of intelligence since 1936. Even so it is desirable that much more of a premium be placed upon intelligence than is placed upon it by the American system of values. America's survival as a great power depends, in the long run, more upon her scientific attainments than upon anything else except her moral character. Science and morality probably flourish most readily in an environment dominated by men of great natural ability.

VII. Conclusion

The main points to keep in mind about population are these. Population movements themselves reflect the working of the regnant social system. Population movements in turn react upon the social system. Population movements and their effects manifest themselves slowly, as a rule, though a partial exception is found in the volatility of the birth rate. Most population movements have implications for the American economy, and many of these implications are of significance for those whose business it is to invest judiciously.

RESIDENTIAL MORTGAGE LENDERS

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THE POSTWAR PERIOD has seen an almost unbelievable expansion of residential housing, a growth which confounded many prophets, and which went a long way toward underwriting the high level of prosperity. Even now the magnitude of this boom has not yet been fully recognized. Mortgage debt on one- to four-family non-farm homes more than doubled in the five-year period immediately following World War II, increasing from less than $20 billion at year-end 1945 to almost $47 billion at year-end 1950. In 1950 alone the increase totaled $7.8 billion—more than the total increase in loans and investments of all active banks in the United States during the same period. In physical terms the boom has been equally impressive. The 4.9 million units started from 1946 through 1950 exceeds the total number of starts throughout the preceding fifteen years. The number of housing starts in 1949 and in 1950 exceeded those of any other year on record. At the present time (September, 1951) the indications are that 1951 will be the third consecutive million-house year.

In the Defense Production Act of 1950, Congress recognized the tremendous inflationary potential in home building. The Federal Reserve System, in concurrence with the Administrator of the Housing and Home Finance Agency, was charged with the responsibility for regulation of real estate financing. Despite these credit restrictions, which were widely denounced as overly restrictive, housing starts for the first half of 1951 were the second highest on record. Although starts in July and August, the latest available as this article is written, were running at a lower level, it was evident that 1951 would go down as one of the big years in home construction.

Because of the continuing importance of residential construction, it may be well to look at salient characteristics of the lenders who furnished the funds for the most spectacular housing boom on record.

Of the total increase of $27,288 million in mortgage debt on one- to four-family non-farm homes from year-end 1945 through 1950 (an increase in mortgage debt of 139 per cent), almost a third found its way into portfolios of savings and loan associations, which increased their holdings by $8,349 million to a total of $13,725 million.

Commercial banks were second as suppliers, increasing their loans by $6,591 million to $9,464 million. Virtually the same amount of lending—$6,134 million—was done by life insurance companies, which held $8,392 million of these loans at year-end 1950. Mutual savings banks provided almost $2 billion of home mortgage funds and held $3,850 million of home mortgage debt at year-end 1950. Government agencies supplied about $400 million; individuals and others supplied $3,900 million.

Lack of space prevents a detailed discussion of any particular group of lenders; this article is designed to give a brief review of practices of lenders as they apply to the current scene. As this article is intended primarily to emphasize differences among lenders rather than similarities, recent real estate credit restrictions are not discussed, for they apply across the board to all lenders not already subject to more stringent regulation.

Commercial Banks

Commercial banks are the most familiar group of residential mortgage lenders, and this very familiarity makes it difficult to realize the extent to which commercial banks have grown in relative importance in the home mortgage market over the past decade and a half. In the past fifteen years the share of home mortgage loans held by commercial banks increased from 9 per cent to more than 20 per cent of the total, and holdings from $1.5 billion in 1935 to $9.5 billion at year-end 1950.

By nature and by law conservative real estate lenders, commercial banks have become more active in the residential mortgage field largely because of three factors—the enormous increase in their deposits, widespread adoption of the amortized (direct-reduction) home mortgage loan, and government insurance and guaranty of FHA and VA mortgages.

While long-term mortgage lending is foreign to the strict concept of the function of commercial banks, mortgage loans play an important role in their credit operations. Except for government-insured and guaranteed loans, which are not subject to restriction, the most liberal mortgage which may legally be made by national banks is a 60 per cent loan with ten years' maturity, with amortization terms which reduce the principal by at least 40 per cent within the ten-year period. Aggregate loans may be equal to capital and surplus, or equal to 60 per cent of time and savings deposits, whichever is the greater. State-chartered banks may make loans on residential properties in accordance with state laws, which vary from the requirement that

"sound banking practices" must be followed, to strictly defined limits. The typical state bank law with regard to residential lending would closely parallel that applicable to national banks, except that national banks may not make loans secured by unimproved real estate, while state banks are generally permitted to do so.

Insured commercial banks in the United States at year-end 1950 held almost a fifth of their gross loans in non-farm residential mortgages; other mortgages accounted for an additional 16 per cent of loans. Residential mortgages alone equaled 90 per cent of total capital accounts, and more than 25 per cent of time deposits. In 1929, non-farm residential loans made up only 5.5 per cent of commercial banks' loan portfolios, and were equal to less than a fourth of capital, and a tenth of time deposits.

The fact that insured or guaranteed loans average almost $1,500 larger than conventional loans seems to be a strong indicator of the importance of such insurance to the current housing boom.[1] The development of the amortized loan as a contributing factor to the housing boom is also indicated in that such loans average more than a third larger than single-payment loans. These data suggest that both bank and customer are more willing to extend themselves on amortized than on single-payment loans, and on insured loans than on conventional loans. Another reason for the differential in the size of amortized vs. single-payment conventional loans is found in the tendency of small banks to adhere to the single-payment loan.

In addition to their direct lending activities in the real estate field, commercial banks make loans to other real estate lenders. Typical of such lending is the warehousing of loans for mortgage companies and brokers. As the mortgage company is primarily in the business of retailing mortgage credit, it frequently needs to supplement working capital with loans from commercial banks, just as does any other retail business. The mortgage company will make a large loan or several small mortgage loans with the intent of quick turnover. A commitment may be obtained from an institutional lender to purchase specified amounts of mortgage meeting specified standards. Mortgage companies, however, need funds to carry these mortgages until they are actually transferred to the purchaser. The mortgages concerned are pledged as security for the loan to the mortgage company, and the mortgages are placed in the physical possession of the bank, which then makes a short-term loan to the mortgage company or mortgage broker.

1. Based on data from Fifth District member banks.

Savings and Loan Associations

Savings and loan associations (also termed building and loan associations, mutual loan associations, building societies, etc.) as a class have become the most important residential mortgage lenders in the United States. Their share of residential mortgage holdings has grown in the past fifteen years from less than one-fifth to almost one-third of the total residential mortgage debt. In 1950, these associations recorded over $5 billion of non-farm mortgages of $20,000 and under—half again as much as commercial banks and three times as much as insurance companies.

Savings and loan associations held 8 per cent of all long-term institutional savings of individuals in this country in 1950. In the postwar period they have scored the largest relative gains in personal savings of any type of savings institution, with a percentage rate of increase double that of life insurance companies, the next largest gainers.

These associations are co-operative institutions owned exclusively by their members; their capital consists entirely of members' accounts. In part because of their nature and in part because of legal restrictions, they usually confine their lending activities within a small geographic area. Loans consist largely of long-term direct reduction residential mortgages.

Federally chartered associations may make mortgage loans, in amounts not in excess of $20,000 on any one property, secured by first liens on homes (or combination home and business properties) located within 50 miles of the association's office. Mortgage loans on other improved real estate secured by first liens may be made without regard to the $20,000 or 50-mile limitations (all such loans may not exceed 15 per cent of the association's assets). Home improvement and certain VA-insured loans of $1,500 or less may be made without regard to the limitations mentioned above except the 50-mile limitation (loans so made may not exceed 15 per cent of the association's assets). There is no limit on the amount which can be invested in United States government securities or in the stock of Federal Home Loan Banks. Lending and investing activities of state-chartered associations are subject to the supervision of the state authorities and vary considerably.

Savings and loan associations operate under either state or federal charters. Conversion from state to federal charter or from federal to state charter may be effected at any time on a majority vote of members. Federal savings and loan associations must belong to the Fed-

eral Home Loan Bank System, which consists of eleven regional banks under the Home Loan Bank Board. Membership in the System is optional for state-chartered associations.

The FHLB may make either short- or long-term loans to federal associations to a maximum of 50 per cent of the share capital of the institution. Loans to state-chartered members are limited by state laws, but in general may equal from 25 per cent to 50 per cent of share capital. Credit may also be extended to non-member associations. FHLB advances to members outstanding almost doubled with the residential housing boom of 1950, rising from $427 million to $816 million. FHLB funds come from capital stock (more than half owned by members and the rest by the United States government), deposits of members, and sale of consolidated FHLB obligations (which are not guaranteed by the government).

Federally chartered institutions are required to join the Federal Savings and Loan Insurance Corporation, an institution similar in organization to the FDIC. State-chartered associations may join the FSLIC at their option. In contrast to FDIC coverage, which includes all Federal Reserve System member banks, FHLB state chartered members are not required to join the FSLIC, although they customarily do so.

Most accounts fall in either of two classes—certificate accounts or book accounts. The former are usually evidenced by formal certificates in round denominations ($100, $200, etc.), the latter by passbooks. All shares are evidences of ownership, and have equal rights to dividends. Most shares may be "repurchased" (sold back to the association) after 30 days' notice, although formality of notice is usually waived.

Dividends on all accounts are declared on a pro rata basis semiannually, at a rate determined by the directors on the basis of net profits. Because of the wide base of ownership, the dividend rate of savings and loan associations does not average as high as that paid on, e.g., commercial bank stocks. However, the rate of dividends usually exceeds the rate of interest paid by other savings institutions. The fact that all shares are evidences of ownership, and are therefore subject to the risks of ownership, accounts in part for the higher rate. In addition, the vast bulk of funds are invested in high-yield long-term residential mortgages.

The borrower must be or must become a member of the associations, though he is not necessarily required to be an investing member or share purchaser. In some cases he may become a member by the mere fact of receiving a loan.

Lending terms differ between associations. Except as further restricted by the terms of Regulation X, federally chartered associations can make conventional loans on home properties to a maximum of 80 per cent of value. In recent years more liberal terms have been permited on VA and FHA loans. Requirements of state institutions vary, but usually run from 65 per cent to 80 per cent of value on home properties.

Life Insurance Companies

Life insurance companies in the United States are the largest receivers and investors of long-term savings of individuals. One-fifth of the total non-farm mortgage debt, almost two-fifths of the net long-term corporate debt, and one-seventh of the federal government debt outside of banks are to be found in their combined portfolios.

Total assets of the more than 600 United States legal reserve life insurance companies in June, 1951, were $65.7 billion, an increase of 47 per cent since the end of the war. As little liquidity is required, only about $2 billion of their assets are held in liquid form, half in cash and half in government securities maturing in less than one year. These are held to meet current expenses, benefit payments, contingencies, and loan commitments.

In 1950 life insurance companies made gross investments totaling more than $12 billion, or the equivalent of $80 for every man, woman, and child in the country. More than $4.4 billion of these funds came from the year's increase in assets. The remainder represented sales and maturity of securities, and mortgage amortization payments and prepayments.

During World War II life insurance companies made heavy purchases of government bonds, and by the end of the war 45.9 per cent of their assets were held in this form. The companies, however, have found it necessary to obtain a fairly attractive yield on their investments, as premium rates are generally adjusted to a return of 2½ per cent to 3 per cent on reserves. To achieve this return they reduced sharply their holdings of Governments and bought higher yielding mortgages and securities of business and industry.

At mid-1951, holdings of Governments had declined to 17.9 per cent of assets. Mortgage loans, largely on single and multi-unit residences, had risen sharply and represented 27.4 per cent of the total, while securities of business and industry accounted for 40.5 per cent of assets. Other assets included bonds of state, local, and foreign governments, real estate owned, and policy loans.

In the postwar period life insurance companies have been very

active in the field of mortgage lending, supplying approximately the same amount of new residential mortgage money as commercial banks. Insurance companies are the heaviest purchasers of government-insured and guaranteed mortgages, and in recent years have acquired roughly half of all FHA residential mortgages made or sold, through both direct lending activity and purchase of mortgages from other lenders.

Most of the larger companies have correspondents (mortgage companies, mortgage brokers, etc.) who take applications for loans and arrange appraisals. Loans are usually made at going interest rates, and then sold to the insurance companies at a slight premium. Frequently the original lenders also service the loans (collect payments, pay taxes and insurance, etc.), for which they receive a servicing fee. Normally, the companies fix the minimum standards of mortgages to be purchased, and in practice take all mortgages offered by correspondents which conform, although more formal commitments may be made. Specific mortgages and blocks of mortgages are also purchased through negotiations with lenders who do not maintain continuing correspondent relationships with the insurance companies.

Life insurance companies are subject to regulation of the chartering state. The typical law limits loans to $66\frac{2}{3}$ per cent of the value of the property, except for Government insured and guaranteed loans, which are exempt. Insurance companies typically charge a lower rate of interest on home mortgage loans than do other lenders, but have a tendency to avoid loans on higher risk properties.

Reflecting the high level of home building activity, an unprecedented net $2.7 billion of life insurance funds went into financing of home mortgages in the first half of 1951, as compared to $3.2 billion for all of 1950. Total mortgage holdings of life companies were $18.0 billion in mid-1951, a net increase since the war of $11.4 billion, despite heavy prepayments and amortizations.

In addition to their mortgage lending activity, life insurance companies have become increasingly active in the postwar period in the purchase of real estate for commercal and industrial rental purposes, and large apartment units for rental housing. Since 1946 real estate owned by these companies has almost doubled, primarily due to purchase of rental property.

Life insurance investments in commercial and industrial real estate totaled $707 million in June 1951, up 8.9 per cent in six months. Since 1942, when Virginia became the first state to authorize acquisition of real estate for investment purposes, this type of financing and the publicity given it have grown rapidly. Most states now permit

holdings of investment real estate, generally restricted to 5 per cent of the company's admitted assets. This type of financing is usually a "sale-lease back" transaction whereby the insurance company purchases a building from a merchandising or manufacturing firm, and rents the space back to the firm on a long-term lease. In some cases insurance companies have purchased land and constructed buildings to tenants' specifications.

So far, the purchase of business properties for rental purposes has proved mutually advantageous. It affords insurance companies sound (and custom tailored) long-term investments yielding relatively high rates of return. Business firms can convert fixed capital to working capital and be free of handling real estate. As interest and rental payments are deductible business expenses, the firms secure tax benefits through renting, rather than owning, real estate. Contracts generally include options to renew leases at lower rentals.

Another type of direct investment in real estate is the erection—and operation—of huge housing developments. At mid-1951, $357 million of rental housing (most of which was developed in the early postwar period) was owned and operated by life insurance companies.

Mutual Savings Banks

Mutual savings banks are currently among the more important long-term credit providers and savings depositaries in the United States. Their mortgages equal 60 per cent of the combined mortgage portfolio of all insured commercial banks. During the first half of 1951 these banks recorded more than $486 million of non-farm mortgages of $20,000 or less—6 per cent of the total. More than one-third of time deposits in all American banks are held by mutual savings banks. The extent of their financial activities is particularly impressive when it is recalled that nearly all of the 530 mutual savings banks are located in New England and the Middle Atlantic States; almost two-thirds are located in two states—Massachusetts and New York.

Since February, 1951, when the last wave of scare buying by consumers subsided, mutual savings bank deposits have shown a consistent rise, resuming the growth typical of these institutions since 1942. Data for July 31 showed deposits at an all-time high of $20,457 million, up $57 million during the month. Mortgage loans were at a record peak of $9,059 million and have been growing rapidly despite credit restrictions.

As the name implies, mutual savings banks are co-operative institutions wholly owned by the depositors. Most of them were organized

during the nineteenth century to provide a place where the then new wage-earning class could deposit small savings. Consequently, deposits are generally restricted to savings accounts of individuals and non-profit institutions. Time deposits of businesses, which cannot be classfiied as savings accounts in the true sense, are in general not accepted, although permitted by law in some states. Some savings banks regularly accept demand deposits; most issue demand instruments such as officers' checks. The total of these demand obligations is about 0.1 per cent of total deposits of mutual savings banks in the United States.

As most of the funds of savings banks are invested in fairly nonliquid assets (in line with historically proved deposit stability), and as substantial withdrawals by individual depositors might cause serious disturbance to investment schedules, most savings banks prescribe a maximum that any person may deposit. In some states this maximum is prescribed by law; in others the law does not limit size of accounts, and each bank makes and enforces its own rules. It should be noted that legal or policy restrictions on amounts which may be deposited do not prevent a depositor from opening an account in the name of another member of his family or establishing an account with more than one bank.

Depositors, as the sole owners of savings banks, are subject to risks of ownership, and share in all earnings of the business. Consequently, these banks pay dividends (or interest) which are not determined in advance, but depend on the earnings of the bank during the period. Like other dividend-paying institutions, savings banks try to maintain a set rate. Although the depositors have full claim on the earnings of mutual savings banks, interest dividends do not necessarily exceed interest rates paid by other types of savings institutions, although they average about twice that paid on savings accounts in comercial banks. Savings banks usually make substantial transfers to a "guaranty fund" or surplus; conservative investment policies lead to relatively low yields on assets. In recent years dividends have averaged slightly less than 2 per cent, although some banks pay appreciably more.

Since mutual savings banks have no paid-in capital, they build up substantial guaranty funds to serve as a cushion against withdrawals and asset deterioration. In Maryland, for example, the guaranty fund must be increased by at least one-eighth of 1 per cent of deposits annually to a minimum level of 3 per cent of deposits. Dividends may be paid only out of net income; the guaranty fund may not be drawn on for dividend payments. At year-end 1950 this fund equaled 4.8

per cent of deposits; undivided surplus amounted to 7.0 per cent of deposits.

Mutual savings banks' investments are usually prescribed by law. Some states permit more discretion than others as to bank investments, but "legal lists" usually include the following: first mortgages on improved real estate; United States government bonds; bonds of states, municipalities, and other political subdivisions; certain high-grade bonds of railroads and public utilities; and in certain instances, bonds of strong industrial corporations. In some states the only statutory restrictions are that no loans be made to officers, employees, or directors, and that investments must be "on good security" at the discretion of the directors of the bank.

In addition to the legal restrictions on their investments, mutual savings banks are subject to supervision by state banking departments. Examinations are made at intervals prescribed by the statutes of the various states.

Mutual savings banks are eligible for membership in the FDIC, the Federal Home Loan Bank System, and the Federal Reserve System, providing specific state laws do not prohibit such membership. At the end of 1950, 194 mutual savings banks with $15.9 billion in assets were members of the FDIC. These 194 banks represent approximately 70 per cent of the assets of all mutual savings banks. Wider membership is discouraged by the fact that the mutuals feel the insurance premium is relatively high in the light of their long safety record. Independent insurance systems are maintained by some states. Many banks carry no deposit insurance.

Only 30 mutual savings banks have joined the Federal Home Loan Bank System, which offers the privilege of borrowing from the Federal Home Loan Banks and of rediscounting residential mortgages. Similarly, membership in the Federal Reserve System has not appealed to many mutual savings banks; only three—two in Wisconsin and one in Indiana—are currently members.

More than a third of the assets of mutual savings banks are held in mortgage loans. At year-end 1950 they held more than $8 billion of real estate loans as compared with holdings of $16.1 billion by life insurance companies, $10.5 billion by Federal Reserve member banks, and $2.9 billion by insured non-member commercial banks.

The shortage of mortgages, coupled with wartime government borrowing and a substantial increase in savings accounts, led mutual savings banks to make heavy purchases of government securities during World War II. Despite their sales of Governments in the postwar period such securities are still the most important type of asset held.

In July, 1951, almost half of their assets (44.2 per cent) were in government securities, as compared with 36.2 per cent of total assets of Federal Reserve member banks.

An interesting difference between savings and commercial banks is seen in the maturities distribution of their Governments portfolios. Commercial banks, interested in maintaining a liquid position to meet possible withdrawals of demand deposits, hold comparatively few long-term government securities and more short-term maturities. Savings banks, on the other hand, do not anticipate large withdrawals at any one time; they do not need to maintain as liquid a position as commercial banks, because of the nature of their deposits. Their holdings of government securities are heavily concentrated in longer maturities. At year-end 1950, over 80 per cent of the government securities held by commercial banks were due or callable in five years, in contrast with less than 10 per cent of holdings of mutual savings banks.

Federal Agencies

A prime factor in the postwar housing boom has been federal government activity, largely concentrated in insurance and guaranty of home loans and provision of a secondary market for selected government underwritten mortgages. In 1950 more than one-third of the dollar amount of non-farm mortgage loans made on one- to four-family properties represented loans insured by the Federal Housing Administration or guaranteed by the Veterans Administration. More than two-fifths of the outstanding home mortgage debt is FHA insured or VA guaranteed.

Of the $7.8 billion increase in non-farm home mortgage debt outstanding during 1950, $520 million—almost 7 per cent of the total—was accounted for by one federal agency, the Federal National Mortgage Association. At year-end 1950 FNMA held a total of $1.3 billion in mortgages—mostly VA guaranteed—and this increased to almost $1.6 billion by mid-1951.

The Federal Housing Administration.—The FHA makes no direct loans, its sole function being to act as insurer of mortgages on various types of residential property. Mortgages insured by FHA must meet certain minimum requirements. Loans are insured on small residential properties only if the rate of interest charged does not exceed a prescribed maximum, in general 4¼ per cent. Mortgages insured on multi-family properties generally carry an interest rate of 4 per cent. (The FHA commissioner can, with approval of the Secretary of the Treasury, increase this rate to 5 per cent for most home mortgages

and 4½ per cent for most multi-family projects.) Maximum maturities are prescribed, as are minimum down payments and the maximum amount of mortgage. Certain physical standards must also be met.

The most important activity of the FHA is insuring mortgage loans on one- to four-family homes under provisions of Section 203, Title II, of the National Housing Act. In 1950, $2,469 million of Section 203 mortgages were insured, covering 283,000 dwelling units, about one-fourth of the total number of one- to four-family dwelling units completed. Second in importance in the last couple of years have been loans on rental projects for veterans, insured under Section 608, Title VI. These loans totaled $1,010 million in 1950. Authority to insure this type of loan expired in March, 1950, except for outstanding applications.

FHA Title I mortgages (home repair and modernization loans) account for the third largest share of FHA insuring activity in recent years, and totaled $701 million in 1950. Other important insuring activities of the FHA include insurance under Title VIII, which provides for insurance of mortgages on new rental housing on or near military installations, and insurance of multi-family rental projects under Title II, Section 207. The total of all types of FHA insurance written in 1950 was $4,341 million. As part of the Defense Housing Act of 1951, Congress added Title IX (defense housing) insurance. The Act also granted authority to make additional FHA loans of $1.5 billion, in addition to existing authority. The President subsequently allocated $0.5 billion to Title II housing, and the remaining $1.0 billion to insurance of defense housing under Title IX.

The insurance premium charged by FHA to the borrower generally amounts to one-half of 1 per cent of the outstanding balances of loans. Separate insurance funds are maintained for each type of insurance written. Administrative expenses are allocated to each of the funds.

In general, payment of insurance in the event of default is not made immediately. If the mortgagee chooses not to take over the property, FHA takes title to the property, giving in exchange 2½ per cent FHA debentures maturing in three years after the defaulted loan was to mature. These debentures, guaranteed by the Treasury, are negotiable, and are callable by FHA at any time before maturity. Currently there is a very small volume of such debentures outstanding.

The Veterans Administration.—The Veterans Administration currently guarantees up to 60 per cent of the amounts of home loans to veterans, but not to exceed $7,500. As in FHA insurance, conditions

under which loans will be guaranteed are prescribed. Terms are generally easier; the maximum rate of interest permitted by VA is 4 per cent. (Under present authority this rate may be increased to 4½ per cent, upon the recommendation of the Veterans Administration with the concurrence of the Secretary of the Treasury.)

Funds needed to meet the cost of guaranteeing VA loans are provided by Congress. No premium charge for guaranty of loans is made to either borrower or lender. If the lender desires, the VA will insure up to 15 per cent of total amounts of VA loans held in portfolio instead of guaranteeing up to 60 per cent of the amount of each loan.

Mortgages guaranteed by the Veterans Administration rose rapidly after the end of the war to a peak at year-end 1946, but declined in favor with lenders until they reached a low point in the spring of 1949. From that level they rose fairly consistently throughout early 1951, when a new peak was reached. Despite a subsequent decline guaranties at mid-1951 were still well above 1950 levels.

Many factors have contributed to the ups and downs of this type of mortgage, one being the 4 per cent interest rate. When the initial postwar surge of demand for VA guaranted mortgages fell off, and as alternative outlets for funds became increasingly available, the volume of these loans made fell sharply. Anticipation of an increase in the rate (which was never realized) also served to deter lenders.

In the last half of 1949 mortgage funds were more available, other interest rates were at a low level, and the VA guaranteed loan became relatively more attractive. FNMA purchases of VA guaranteed mortgages contributed importantly to the increase, as did FNMA's practice of making commitments to purchase virtually 100 per cent VA loans—a practice which led primary leaders to make loans with no intention of holding them. Another factor was the reduction of the FHA rate to 4¼ per cent, narrowing the difference in rates between FHA and VA loans.

Further impetus was given to the use of VA guaranties by the Housing Act of 1950, although it prohibited further issuance of commitments by FNMA. The maximum percentage of loan covered by VA guaranty was increased from 50 per cent (not to exceed $4,000) to 60 per cent (not to exceed $7,500). Among other provisions, $150 million of direct loans to veterans was authorized in cases where 4 per cent financing was not available from local private financing institutions. This authority to make direct loans expired on June 30, 1951, but was subsequently extended by the Defense Housing Act of 1951.

The Federal National Mortgage Association.—With a few excep-

tions, FNMA does not make direct loans. Its primary function is to provide a secondary market for government underwritten loans by purchase and sale of certain FHA-insured and VA-guaranteed loans. Currently FNMA holdings cannot exceed $2,750 million. Mortgages held at the end of December were $1,347 million; by the end of June they had grown to almost $1.6 billion. At this level FNMA holdings of mortgages were almost double the level at year-end 1949, and were more than $500 million above holdings at the beginning of the Korean conflict, despite an active selling campaign.

Authorized in 1934 by Title III of the National Housing Act, FNMA was not organized until 1938. During its early years, FNMA was relatively inactive. However, its very existence bolstered the position of FHA-insured mortgages and greatly widened the mortgage market.

In the postwar period, FNMA activities became more extensive. When Congress expanded FNMA authority to include the purchase of VA-guaranteed loans in 1948, and as FNMA's authorization to purchase was progressively stepped up, holdings increased rapidly. In March, 1950, FNMA's authorization of $2,500 million was used up in mortgage holdings and commitments to buy additional mortgages. At that time the authorization was increased to $2,750 million, and further advance commitments to purchase were prohibited. Since then, FNMA has in general limited acquisitions to over-the-counter purchases of mortgages held by investors for at least two months, on which insurance was written within 12 months of the time of purchase. On June 29, 1951, FNMA further restricted purchases to mortgages insured on or after March 1, 1951. Outstanding commitments, which amounted to only about $53 million at the end of June, are still being met. These commitments were almost entirely on multi-family mortgage loans.

Under provisions of the Defense Housing Act of 1951 FNMA was authorized to make up to $200 million of advance commitments in critical defense housing or disaster areas.

Other federal agency activity.—No other federal agency handles nearly the volume of residential mortgages that are insured or guaranteed by FHA or VA, or purchased and sold by FNMA. Next in importance are the direct lending and subsidy activities of the federal government, largely concentrated in the Public Housing Administration.

The PHA centers its activity in the low-rent public housing program which has been in operation since 1937, and which was expanded materially by the Housing Act of 1949. The PHA makes

loans with a maturity of as much as sixty years to local housing authorities, and in addition provides annual contributions which serve to keep the rents within the means of low-income families.

The PHA is also responsible for the management and disposition of federally owned war housing, certain temporary housing accommodations for distressed veterans, and other similar programs.

The only federal agency apart from FNMA which holds any sizable volume of home mortgage loans is the Reconstruction Finance Corporation, which held $92 million of home mortgage loans at year-end 1950. This represents mortgages which were bought by the RFC Mortgage Company (taken over by the RFC in 1947) and are now being liquidated.

As part of its lending activities, the RFC makes loans to financial institutions, which in the case of primary mortgage lenders serve to provide funds for home financing. During the last twelve years very few requests for RFC assistance have been made by financial institutions; most of the advances in this category were made prior to 1939, and have been in the process of liquidation since that date.

The significance of federal activity for housing finance.—Mortgage guarantees and insurance in recent years have been important factors in the real estate market. The low interest rates, long amortization periods, and generally smaller down payments naturally lead to increased demand for loans. They permit buyers to enter the market who would otherwise be unable to purchase housing. Other buyers are brought into the market earlier; still others can purchase high-priced housing.

On the lending side, protection of lenders through guaranty and insurance increases the supply of credit available for mortgage loans. Further affecting the supply of mortgage funds is the relative inflexibility of interest rates permitted under VA and FHA guaranty and insurance. When other interest rates are low, guaranteed and insured loans are relatively more attractive, and a greater flow of insured and guaranteed mortgage credit is encouraged. When other interest rates rise, the maximum rates permitted by VA and FHA become less attractive, and lenders are more reluctant to make these loans.

FNMA purchases of mortgages encourage the expansion of real estate credit in two ways. First, purchases of mortgages by FNMA serve to release funds of private lenders which can be reinvested in new mortgages. Second, to the extent that FNMA stands ready to buy insured and guaranteed mortgages, a primary lender will be more apt to expand his purchases of mortgages, on the assumption that he will be able to sell them when pinched for funds.

Other Lenders

Miscellaneous lenders (all those other than the four major institutional lenders—commercial banks, savings and loan associations, mutual savings banks, and life insurance companies) range from mortgage companies and other businesses originating mortgage loans on a full-time basis to individuals. This group of residential mortgage lenders is much more important in the field than is sometimes realized; actually it made more than one-fourth of the record $16 billion of non-farm residential mortgages recorded in the United States in 1950, and held nearly one-fourth of the outstanding home mortgage debt of $46.9 billion at year-end.

In common with other major lending groups, miscellaneous lenders increased their rate of new lending and sharply expanded their portfolios during 1950. Their $4.2 billion of home loans made in 1950 was a third greater than in 1949; the $1.3 billion added to mortgage portfolios was almost four-fifths larger than the 1949 increase and represented the largest annual increase ever recorded.

The major types of lenders in this category include mortgage companies, individuals, fiduciaries, trust departments of commercial banks, real estate and bond companies, philanthropic and educational institutions and fraternal organizations.

Interesting facts regarding the lending activities of many of these miscellaneous lenders were obtained from registration statements required under Regulation X. These data, incidentally, do not indicate total amounts of real estate financing done by each type of registrant. Many small individual and institutional lenders were not required to register, as their mortgage lending activity is not sufficiently large to classify them as persons "engaged in the business of real estate credit" for the purposes of Regulation X. (Lenders are required to register only if they (1) make three or more extensions of real estate credit in a year, or (2) extend real estate credit during the year aggregating more than $50,000.) The data do indicate, however, the type of mortgage financing done by each class of lender.

Mortgage companies.—Mortgage companies generally serve as middlemen between large mortgage holders and individual borrowers. Virtually all of their loans are made in their capacity as correspondents or are intended for immediate resale. For example, they originated 27.7 per cent of the $2.5 billion of home mortgages insured by FHA in 1950 but held only 3.4 per cent of the $9.2 billion of such mortgages outstanding at the end of the year.

Usually these companies maintain formal correspondent relation-

ships with insurance companies or other institutional lenders under which a more or less formal commitment to purchase mortgages meeting specified standards is maintained. Mortgages, both individually and in blocks, are also sold to investing institutions or to private individuals. The services of mortgage companies prove advantageous to investing institutions in that they are relieved of many of the details of mortgage retailing—property selections, property appraisal, investigation of title, examination of individual credit ratings, and other details. Advantages to individuals in purchasing mortgages from such companies are the same as those for financial institutions and they thus obtain an investment conforming to the degree of risk desired.

On the other side of the lending picture, mortgage companies frequently work hand in hand with realty companies; sometimes they are subsidiaries of large realty firms. The realty firms refers customers to the mortgage company for financing, the mortgage company advances the funds necessary to consummate the purchase (frequently borrowing from commercial banks in order to do so), and then places the mortgage with a long-term investor. Financing of large developments is frequently done in this manner.

Although mortgage companies normally sell the vast majority of the mortgages they originate as quickly as possible in order to turn over their capital rapidly, an inventory of mortagages held for sale is usually on hand at all times. Mortgage companies ordinarily service loans they have sold. The fee for such servicing typically amounts to one-half of 1 per cent of the outstanding balance of the mortgage.

The volume of mortgages handled by many mortgage companies compares favorably with that of other large financial institutions. The companies, however, are not generally subject to public supervision of their accounts. They are subject to the same regulations as incorporated non-financial businesses, which vary according to the laws of the chartering state.

During the 1920's a substantial part of the financing of real estate was done through sale of securities by mortgage companies which guaranteed payment of interest and principal. Financing was through serial collateral bonds which were sold to the general public. These bonds were secured by blocks of mortgages or single large mortgages held in trust. With the collapse of real estate values in the 1930's, most of these mortgage guaranty companies failed or were closed by state intervention. The modern mortgage company steers clear of this particular type of financing.

Individuals.—Separate data on the share of mortgages held by

individuals are not available on a current basis. The Federal Home Loan Bank Board makes estimates for a miscellaneous group which includes individuals. Data on mortgage recordings of individuals are available from this source. The 1940 census indicated that individuals held 25.2 per cent of the number and 20.4 per cent of the amount of first mortgages on one- to four-family non-farm properties occupied by owners. In 1950, individuals recorded $2.3 billion of non-farm mortgages of $20,000 or less, 14.1 per cent of the total.

Many individuals and firms which sell real estate serve as middlemen in finding lenders to take the mortgages on properties they sell. Activities of the individual mortgage broker or agent parallel those of mortgage companies, although in most instances their resources are somewhat smaller. Fairly active residential mortgage lenders are builders and developers, who sometimes find it advantageous—or necessary—to carry the mortgage on a residence they have constructed, either on a temporary basis intended for eventual placement elsewhere, or on a more permanent basis as an investment.

Lawyers play a prominent part among individual lenders. Not only do they examine titles when real estate is transferred but their advice is usually needed in making mortgage loans. Close contact with real estate transactions enables lawyers to search for mortgages fitting their own investment needs, and to recommend mortgage loans to interested friends and clients.

Individuals active in the home mortgage field vary from domestic servants to college professors. These lenders may be as thoroughly professional as any institutional lender or may constitute the "amateurs" in the field. This group includes the individual who makes mortgage loans to another member of his family, or takes a mortgage in partial payment for a property which he has sold. The more professional individual real estate mortgagee advertises through newspapers, or places his funds through mortgage companies or brokers, for which a fee may or may not be charged.

Some individual lenders are as conservative in their lending policies as the large lending institutions, but more typically individuals will make higher ratio loans. The high return payable on mortgages of higher risks, notably junior mortgages (subject to prior lien of other mortgages), serves to attract a large volume of individual lending into this field, which is largely avoided by institutional lenders.

Increased use of the amortized home loan has served to reduce the share of home lending done by individuals. Periodic reduction of principal makes repayment of such loans easier for the borrower, as he can pay out income, and provides a sounder loan for the lender

since principal declines along with the depreciation of the property. The institutional lender, or the large individual lender, carries several mortgage loans, and makes new loans as the principal is paid down on loans held in portfolio. The small investor with only one or two mortgages is unable to do this, and is faced with a constant reduction in the face amount of his investment.

Individual lenders are largely restricted to conventional loans since they are not eligible as approved lenders under FHA insurance terms. They may make VA guaranteed loans, if they are able to meet certain requirements (such as ability to service loans), subject to prior approval by the VA. Individuals may purchase VA loans subject to the same restrictions, or may purchase VA loans without such restriction if the original lender continues to service the loan.

Other miscellaneous lenders.—Many institutions with large endowment funds, such as universities, colleges, hospitals, and foundations established by wealthy individuals or families, find mortgage loans attractive. Estates, holding large sums of money in trust for heirs, also look upon mortgages with favor. Many states have laws which safeguard the investment of such funds and specify proportions that may be invested in mortgages. Usually these are among the most conservative lenders, as the safety of their funds is of paramount importance.

Real estate loans are sometimes made by lending institutions which concentrate primarily on other types of credit. Included in this category are sales finance companies, small loan companies, and in some cases credit unions. These lenders do not service loans for others, but rather hold them as investments for their own account. Credit unions sometimes make small loans secured by real estate to members, while mortgage loans of sales finance and small loan companies are typically small consumer loans secured by real estate.

Substantial portions of pension funds are sometimes placed in residential and other mortgages and interest in this field seems to be increasing. Large labor unions with substantial surplus funds are another type of mortgage investor. In recent years some large firms have set aside funds to lend to employees at relatively low rates to build or buy homes, largely on the theory that a home owner is a more reliable employee.

INVESTOR GUIDEPOSTS IN COMPARING INCOME STATEMENTS*

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AMBIGUITIES IN ACCOUNTING REPORTS

THE STRUCTURE of American economic society has been characterized by the growth of huge corporate units embracing a complex network of highly specialized manufacturing systems. Paralleling this trend toward extensive industrialization is the increasingly important role of the government in regulating many aspects of the production and financial operations of business enterprises. In view of the ramified scope of the modern industrial organization, it is impossible for top management to reach sound policy decisions unless there is available a satisfactory means of reporting current information covering the company's financial affairs. To provide this information, both business and government administrators have become dependent upon a considerable array of statistics embracing such important economic processes as pricing, production, distribution, and cost determination.

The basic source for this great superstructure of data is the report of the accountant. Sufficiently accurate techniques, however, have not been developed to permit the preparation of these reports so that they reflect a given set of circumstances in the same manner regardless of who prepares them or the nature of existing economic conditions. The principal shortcomings of accounting records arise from their dependence upon a dollar base, which is, itself, a highly variable factor, the personal judgments implicit in many accounting decisions, and limitations in methods of evaluation.

Further augmenting the difficulty of accounting problems is the compulsion to summarize the full scope of an enterprise's operations into two relatively simple statements—the income account and balance sheet. As a result, accountants have found it extremely difficult to meet the varied needs of those interested in the regularly

* The author wishes to acknowledge the co-operation of Professor Ralph Lancaster of the department of accountancy, University of Toledo, who reviewed the paper with respect to its accounting accuracy.

published statements. This is particularly true in view of the fact that, in addition to their importance to management and the government, these reports are being increasingly used by groups with such diverse interests as stockholders, security analysts, and labor leaders.

Over a period of years, aggressive efforts have been made by government bodies including the Securities and Exchange Commission, the Interstate Commerce Commission, the Federal Power Commission, and various state agencies, as well as by professional accounting and financial associations to eliminate these shortcomings and to standardize accounting reports. Security analysts have been assuming a gradually expanding role in achieving these results. Nevertheless, the financial reports of corporations are still subject to ambiguities in preparation and uncertainties of interpretation. Accordingly, while the average investor cannot be expected to become an expert in accounting procedure, he should be sufficiently familiar with the statements of the different types of corporations to be able to exploit these documents to his own advantage.

Nature of the Income Account

The income account or profit and loss statement is the medium for summarizing succinctly and concretely a business enterprise's earnings experience during a previous stipulated period. Underlying the theory of the income account is the concept of action. It is the statement that draws together the various elements that enter into the creation of earnings capacity. An important problem of security analysis, therefore, is to develop requisite techniques to permit the breakdown of these elements and to provide for their evaluation in gauging future earning prospects.

The nomenclature used to describe the various phases of the income account, however, and the information included in the published statements often differ. Significant variations characteristically occur between the reports of railroads, public utilities, and industrials, and within these categories, divergent accounting methods may be adopted. In order to permit a realistic comparison of the financial position and outlook of different corporations, therefore, adjustments must first be made to eliminate major discrepancies in reporting procedures. Moreover, when the companies' annual reports do not contain specific information concerning a phase of operations that is believed pertinent to the analysis, recourse to other sources such as the registration statement may become necessary in order to obtain the desired breakdown.

Typical Variations in the Income Account

The income statements of different corporations typically embody a wide range of accounting variations. In many instances these diverse treatments of similar transactions are unimportant for purposes of evaluating a security. Under these circumstances, adjusting for these differences to bring about strict comparability between two statements would merely represent a useless gesture in the direction of academic niceties. In other instances, however, the variations may exert a material influence on earnings. Typical areas that justify attention on this score, both because of their effect on reported earnings and the relative frequency with which they occur, are the treatment of subsidiary earnings; depreciation, depletion, and amortization; capitalization of expenses; the handling of extraordinary profits and losses; the treatment of reserves; and the accounting for inventories.[1]

The Treatment of Subsidiary Earnings

When a parent company dominates the policies of subsidiaries, it is likely that their undistributed earnings will eventually revert to the benefit of the parent. Under these circumstances, it appears justifiable to aggregate the earnings and expenses of the subsidiaries into a consolidated income account reflecting the over-all operations of parent and subsidiary companies. As a guide to the determination of when to prepare consolidated reports, the Securities and Exchange Commission has adopted a regulation applicable to all financial statements filed under the various securities acts which provides that no registering company shall consolidate any subsidiary which is not majority-owned.

From the point of view of the investor concerned with the problem of accurately gauging the earnings potential of an enterprise, the SEC provision may not prove satisfactory. In many instances, control of subsidiary management policy is exercised by a parent owning considerably less than 51 per cent of the outstanding stock. Accordingly, the parent may be in a position to accelerate the flow of earnings from the subsidiary, if such a policy seems desirable, or may find it in the best interests of the system as a whole to offset subsidiary losses by transfers of income from other units in the sys-

1. The difficulties arising from variations in the accounting for inventories are not discussed subsequently in this article because this general area of investigation has been well explored previously.

tem. When a company maintains a dominant influence over the management policies of another enterprise, therefore, the investor may decide that more realistic earnings results can be obtained by adjusting the reported income of the parent to take into account its equity in the profits or losses of such non-consolidated subsidiaries.

In order to reconcile the dividends received from and earnings of unconsolidated subsidiaries, the SEC requires that registering companies show in the consolidated income statement an appropriate footnote indicating the necessary adjustment. This footnote must state the proportion of the sum of, or the difference between, current earnings or losses and the dividends paid by unconsolidated subsidiaries that is applicable to the parent and its consolidated subsidiaries. In many instances, the effect of a parent company's equity in the earnings of non-consolidated subsidiaries is reported in the published financial statements. For example, since 1917 Du Pont has owned a substantial interest in the common stock of General Motors. In 1950, this interest amounted to 20 million shares or about 23 per cent of the outstanding common stock of General Motors. It is Du Pont's practice to revalue its investment annually to correspond to the equity indicated in the General Motors balance sheet, and to report this amount as an adjustment to surplus. Between 1925, when the practice was instituted and 1950, this adjustment resulted in an annual average addition of approximately 31 cents per share to the Du Pont surplus account. In specific years, however, the amount involved was much more substantial and justified attention in appraising the Du Pont common stock. Similarly, Texas Company estimated that in 1950, the company's equity in the 1950 earnings of non-consolidated subsidiaries exceeded dividends received by some $22.3 million or $1.62 per share.

When a parent company makes no adjustment for its equity in non-consolidated subsidiaries, the investor analyzing the stock of the parent may find it necessary to allow for this factor through an independent calculation. In this case, a satisfactory estimate may be determined by simply allotting to the income of the parent company its proportionate interest in the earnings transferred to the surplus of the subsidiary.

An outstanding example of a company which does not include in its income account any reference to the undistributed earnings of subsidiaries is the Northern Pacific Railway. The company has investments in a number of affiliated companies, chief of which is its 49 per cent interest in the common stock of the Chicago, Burlington & Quincy. In its income statement, however, the Northern Pacific

simply includes the dividends received as a result of these stock holdings. In addition, the company shows only as a surplus addition the profits from its substantial land operations. It is true that as available land acreage decreases, this source of income tends to dry up. Nevertheless, land operations have been a consistent income-producer for a number of years, and it is questionable whether or not the investor should ignore this fact completely.[2] If the Northern Pacific's earnings were adjusted to take into account its equity in the undistributed profits of the Burlington and the profits from land operations, a substantial increase would result, as shown in the following table.

TABLE 1

ADJUSTMENTS IN EARNINGS OF NORTHERN PACIFIC RAILWAY TO REFLECT OPERATIONS OF CHICAGO, BURLINGTON, & QUINCY AND THE LAND DEPARTMENT, 1945–50

	TOTAL NET INCOME*			PER SHARE EARNINGS*		
		INCLUDING			INCLUDING	
Year	Reported	Interest in Undistributed Profits of Burlington	Land Operations	Reported	Interest in Undistributed Profits of Burlington	Land Operations
	(In Thousands of Dollars)			(In Dollars per Share of Stock)		
1950	19,510.8	30,194.2	30,939.7	7.87	12.18	12.48
1949	9,734.4	13,105.0	14,678.4	3.92	5.28	5.92
1948	12,312.4	20,212.7	22,334.3	4.97	8.15	9.01
1947	13,379.7	21,950.5	23,673.9	5.40	8.85	9.55
1946	8,881.1	15,178.8	16,655.1	3.58	6.12	6.71
1945	11,559.9	19,965.9	21,591.8	4.66	8.05	8.71

* Does not take into account income from other unconsolidated subsidiaries such as the Northwest Improvement Company and the Spokane, Portland and Seattle Railway.

Despite the ascendancy of a parent company over the policies of a subsidiary, the latter may be prevented from disbursing dividends because of legal limitations. For example, the subsidiary may have outstanding a preferred stock with dividend accumulations that block payments on the common, or receipt of dividends from foreign subsidiaries may be prevented by currency restrictions. Under these circumstances, the consolidated statement may be misleading in its overstatement of earnings. The International Telephone & Telegraph Co. at various times attempted to eliminate this type of distortion from its consolidationed statements by excluding the accounts of subsidiaries in Austria, China, Germany, Hungary, and Italy be-

2. That the market recognizes the importance of this source of income is indicated by the 4¾ point advance to a new high of 46 in the market price of the Northern Pacific common stock on July 17, 1951, when it was announced that the Shell Oil Company had discovered oil on territory owned by the Northern Pacific in Montana.

cause they operated in countries were abnormal conditions prevented the receipt of income by the parent. At the same time, however, the net income of the foreign subsidiaries reported in the consolidated financial statements, because of dividend limitations, taxes, and exchange regulations, may not necessarily represent United States dollars available to the company. Accordingly, an accurate appraisal of the actual earnings of International Telephone would entail further adjustments to take into account the effect of these restrictions on converting foreign exchange to dollar income. In this connection, too, actual payment to Texas Co. of its equity in the undistributed earnings of its subsidiaries would have been subject to United States and foreign income taxes as well as exchange restrictions. Thus, in order satisfactorily to evaluate the position of a holding company, the consolidated and parent company statements as well as those of important non-consolidated subsidiaries are generally necessary so that the investor may be aware of both the over-all income of the enterprise and the revenues flowing to the parent.

Meaning of Depreciation

Accountants generally regard depreciation as the process of writing off the original cost of a capital asset over its estimated useful life. This procedure is intended to offset the decline in value inevitably experienced by all fixed assets because of wear, usage, and obsolescence. Depreciation is thus visualized as a cost arising from the utilization of asset capacity and is properly treated as an expense of operation. This charge is inherent in the functioning of the asset and exists even though replacement is not considered necessary. Therefore, a corporation which consistently understates the rate of asset depreciation is, in effect, overstating its income.

Differences in Accounting for Depreciation

The treatment of depreciation in the books of a company is one of the most hotly contested points in the field of business finance. This controversy has magnified the problem of security analysis. Inasmuch as depreciation is a charge to earnings, variations in the method of calculating and handling this charge could affect materially the level of reported income. Accordingly, the investor, in studying a security, must give careful attention to the corporation's method of treating depreciation to determine whether or not its policy in this respect distorts earnings comparisons with other enterprises. Variations in the method of handling depreciation occur for three major reasons: (1) differences in the method of determining the charge;

(2) divergencies in reporting procedures; and (3) conflicts of viewpoint with respect to the purpose of depreciation.

The Determination of Depreciation Charges

The essential principle underlying the determination of annual depreciation charges is to spread these costs over the period of the useful life of the asset. The allocation of costs must be based on objective techniques and in accordance with a program that can be followed regularly each year. Within the framework of these requirements, however, a number of different plans may be adopted.

The straight-line method is established on the theory that depreciation is a function of time and therefore allocates equal charges to successive units of time. In accordance with the concept of depreciation based on units of production, these costs are the result of asset deterioration arising from continued output and therefore equal charges are established for successive units of production. Other plans involve the providing of larger charges during the earlier years of asset utilization; writing off assets completely on acquisition, thus eliminating the necessity of subsequent charges; and basing depreciation upon sales.

Probably the straight-line method is the one most widely employed and favored by the various regulatory commissions. Nevertheless, the Bureau of Internal Revenue has evidenced a willingness to accept any method of depreciation accounting that is consistently applied and appears to suit the needs of the user. Moreover, the amount of depreciation claimed for tax purposes may differ from that reported to stockholders. The significance of these annual discrepancies in depreciation charges, however, tends to be minimized, to some extent, when average earnings for a number of years are compared, because so long as the allocation is based upon the original cost of the asset, the total amount charged over a period of time will be the same.

Divergencies in Reporting Procedures

The financial policy of a corporation must take into consideration the need for replacing equipment after it is worn out. In accordance with conservative accounting policy, however, if depreciation charges have not been sufficient to meet replacement requirements, the difference should be charged to surplus. Corporations, nevertheless, sometimes follow the procedure of charging directly to earnings any extraordinary depreciation charges caused by changing economic conditions. For example, the 1947 annual report of Du Pont con-

tained a $20.9 million charge to earnings as "a provision for excessive construction costs"; the 1948 report of Libbey-Owens-Ford included a $3 million charge for "property replacement and/or excessive costs of new facilities"; while the income account of Crane Company in 1949 showed $832 thousand as "the excess of anticipated replacement cost over the original cost."

This split in accounting practice can, of course, seriously distort earnings. The investor, therefore, should check the income account, particularly during years of sharp price changes, to determine if earnings have been influenced by changes in depreciation policy. To the extent that differences are apparent, appropriate adjustments should be made to place reported earnings on a similar basis. It is probably the sounder practice to exclude all extraordinary charges to earnings arising from increased asset values and apply these amounts as deductions from surplus.

Conflicts of Viewpoint with Respect to the Purpose of Depreciation

These variations in accounting practices reflect fundamental differences of opinion in regard to the purpose of depreciation. The sharp increase in building costs that followed the close of World War II caused many accountants and business executives to abandon the traditional concept of depreciation as an operating charge related to the original cost of the asset. In lieu of this viewpoint, it was held that depreciation was a means of providing funds for the replacement of capital assets after they had become worn out.

This changed approach was dramatically highlighted in the U.S. Steel 1947 annual report, where the company increased its depreciation charge by $26.3 million and offset this amount by crediting a new reserve for "Replacement of Properties." This increase was justified on the ground that "If a business is to continue, it is necessary to recover the purchasing power of sums originally invested in tools so that they may be replaced as they wear out. Therefore, this added amount is carried as a reserve for replacement of properties. It is a simple truth that to buy similar tools of production takes many more dollars today than formerly; to count as profits, rather than as cost, the added sums required merely to sustain production is to retreat from reality into self-deception."[3]

The first inklings of a fundamental objection to this procedure came in the auditor's report for the same year which suggested that the new depreciation policy was not in conformity with generally

3. United States Steel Corporation, *Annual Report, 1947*, p. 26.

accepted accounting principles. Subsequent objections by the American Institute of Accountants and the Securities and Exchange Commission caused the company to revise its original method and relate the depreciation charge to original cost rather than replacement value. Despite this capitulation, the company reiterated its belief that depreciation should represent "a proper recording of the wear and exhaustion of its facilities in terms of current dollars as distinguished from the dollars which it originally expended for those facilities."[4] As a compromise solution, therefore, U.S. Steel adopted a method of accelerated depreciation based on cost. The company explained that the accelerated depreciation would be applied only when the current operating rate was in excess of U.S. Steel's long-term peacetime average rate of 70 per cent of capacity. In 1948, the amount of accelerated depreciation, non-deductable for income tax purposes, was $55.3 million including a deficiency of $2.7 million for the previous year. This sum was subtracted from earnings, as in the previous year, but the offsetting entry was to depreciation reserve rather than to a new surplus reserve account.

The revised depreciation program of U.S. Steel received its auditor's approval. It was in conformance with the method of Chrysler which in 1947 adopted the policy of accelerating its depreciation charges during the early years of an asset's productive use thereby permitting the amortization, on a short-time basis, of the excess costs of acquiring these assets compared with prewar price levels. Both the revised Steel formula and the plan adopted by Chrysler resulted in substantial additions to depreciation charges during the initial years of the asset's life. These charges, however, are based on original cost and therefore do not result in a greater over-all depreciation write-off during the life of the asset than would occur under normal depreciation procedures. In contrast to this effect, the original Steel formula would have resulted in enlarged cumulative charges, since the base used would have been replacement costs.[5]

From the point of view of the investor, the use of accelerated depreciation has three principal shortcomings. First, it produces an eventual understatement of assets with a consequent tendency toward distortion of earnings in particular years. Second, it aggravates the difficulty of analyzing the depreciation account by obscuring the policy followed. In the years subsequent to adoption of the revised

4. United States Steel Corporation, *Annual Report, 1948*, pp. 4–5.

5. This policy of accelerating depreciation during periods of changing prices is a different problem from the accelerations sometimes permitted by the government during periods of emergency.

depreciation plan, the investor may experience difficulty in determining the company's program, because of inadequate references in the published annual report, thus necessitating recourse to previous years' statements or SEC records to ascertain the significance of the new policy. And finally it creates the problem of determining a suitable method for handling depreciation during periods of declining prices. Instability in reporting depreciation charges and lack of standardization among different companies place additional barriers in the path of preparing satisfactory earnings estimates and comparing the operating results of different companies.

Railroad Depreciation

The depreciation policy of the railroads has had an interesting history and warrants special mention. Although the Hepburn Act in 1906 provided that the Interstate Commerce Commission could formulate rules governing depreciation, no official requirement for the roads to depreciate their property was issued until 1914. The initial regulations were not very effective inasmuch as the rates were left to the discretion of the companies and therefore were often established on the basis of earnings expediency rather than fact. In reflection of this condition, the Commission in 1935 established more rigid rate provisions for depreciation applicable to certan types of rail equipment, but depreciation of roadway and structures continued to be determined largely in accordance with the independent decisions of the individual roads. After extended three-way discussions among the carriers, the Commission, and the Internal Revenue Department, formal procedures for recognizing the depreciation of ways and structures were established in 1943.

At present, therefore, the Railroad Uniform System of Accounts provides that the carriers must charge to operating expenses or other appropriate accounts, an amount that approximates the loss in service life not restored by current repairs or covered by insurance of both depreciable road property and equipment. The annual depreciation rates are prescribed by the Commission and are applicable to the original cost of the road property or the ledger values of the equipment so as to distribute by the straight-line method, in equal annual charges, the service life of the property or equipment over its estimated life.

In addition to these required depreciation charges, the roads have been allowed to amortize defense projects within a five-year period. Despite the progress made in rail depreciation accounting, however, it is still based to a large extent on the assumption that property main-

tained in adequate condition is not subject to depreciation. Accordingly, in general, railroad depreciation policies are still more lenient than those adopted in the public utility and industrial fields.

Depreciation is not generally reported as a separate account in the published rail annual reports, but is included as one of the many items comprising maintenance of way and equipment. For all the Class I roads, depreciation and amortization of defense projects in 1949 constituted about 5 per cent of operating revenues. The offset to the depreciation charge is an accrued account that is reported in the balance sheet. The annual differences between the accrued accounts may not, however, equal the depreciation charge for the year because upon retirement of a piece of property or equipment, the full service value is applied to the appropriate accrued account. Accordingly, the charges set aside by the individual roads must usually be ascertained from ICC reports, although they are not uncommonly stated in the financial analysis which many roads incorporate in their annual reports.

Methods of Checking the Adequacy of Depreciation Charges

Depreciation accounting, in effect, diverts a portion of the income stream from flowing toward the corporation. If the depreciation charges are generous, management has available a windfall of funds that could be used to meet current operating requirements in times of adversity. On the other hand, if the depreciation allotment is lean, dividend distributions to stockholders may represent, in part, a return of capital. Because of the importance of these charges in gauging the financial position of an enterprise, it is imperative that investors adopt some measuring devices to check their adequacy.

Unfortunately, as has been indicated, a conspicuous characteristic of the depreciation problem is the conflict that exists with respect to the appropriate method of handling these charges on the books of corporations. Accounting disparities of this type aggravate the difficulty of analysis. To some extent, a solution is provided by the large financial statistical services which are in a position to keep a staff of investigators in the field to obtain first-hand impressions of the condition of a plant's equipment and to discuss apparently abnormal depreciation policies directly with management. Even in these cases, however, the large number of companies that warrant study and the subtleties of depreciation accounting militate against the possibility of numerous detailed investigations. From the point of view of the individual investor, of course, extensive field trips are usually luxuries that either cannot be indulged in at all or must be

undertaken very sparingly. Under these circumstances, probably the most effective technique for handling the depreciation dilemma is to check the charges superficially by a few simple comparisons and only when discrepancies become manifest to attempt more detailed investigations.

It is generally difficult for the investor without a detailed knowledge of the industry in which the company under study is operating to establish directly minimum depreciation requirements. Accordingly, a practicable way of measuring conveniently the adequacy of charges is probably by comparison with other well-established enterprises in the same field. In making these comparisons, three aspects of the depreciation allowance might be considered.

First, if the investor has access to the company's registration statement, prospectus, or listing statement, he will probably discover an outline of the annual depreciation rates applied by the company during the previous period to the different categories of its fixed assets. These rates are sometimes also summarized in the financial manuals. With this information available, he can compare these rates directly with those used by different companies for the same type of assets and with the rates on different classes of assets approved in decisions of the tax court.[6]

Second, he may strike comparisons of the ratio of the annual depreciation charges to the value of the company's fixed, depreciable assets, exclusive of the reserve for depreciation. This ratio suggests the number of years used by the company for writing off its capital equipment. As a rough measuring rod, twenty-five years may be regarded as the operating life of corporate property, which indicates a minimum provision of 4 per cent for annual depreciation charges. For example, in referring to the depreciation charges of American Telephone and Telegraph Co., it is stated in the company's annual report that the provision is intended "to meet loss of investment when depreciable property is retired from service, based on rates designed to spread this loss uniformly over the service life of the property."[7] Such provision represented approximately 4 per cent of average investment in depreciable plant in service.

Third, he may compare the amount of annual depreciation charges with net sales during the year. This ratio must be used with great caution since depreciation is largely a product of time whereas sales represent a function of various economic forces such as demand, prices, and costs. Nevertheless, there is a certain degree of logic to

6. These rates are generally available in published tax services.

7 American Telephone and Telegraph Co., *Annual Report, 1950*, p. 24.

the measure inasmuch as it gives some consideration to the economic usefulness of the asset. The ratio is particularly applicable to the public utility industry where sales are comparatively stable.

Depletion and Amortization

Closely akin to depreciation are depletion and amortization. When feasible many corporations adopt similar principles in calculating all three charges. For example, the annual report of the Standard Oil Company of New Jersey discloses that "the companies' policy with respect to depreciation, depletion, and amortization of property, plant, and equipment is, in general, to charge income over the estimated life of such assets by the application of either the unit of production method or the straight line method."[8]

Depletion

It is well, however, for the investor to recognize the distinctions between depreciation, depletion and amortization and to be aware of their areas of application. Depreciation already has been defined. Depletion refers to the decline in value of wasting assets, such as coal, metal ores, oil wells, and timber land, arising from the extraction of units of the original quantity. Unlike depreciable assets, which may be replaced, those subject to depletion become exhausted after the raw material has been fully exploited.

In effect, therefore, depletion represents an allowance for the loss of a capital value. This fact is recognized both in the Internal Revenue Acts and in court dcisions, which usually permit corporations to write off their wasting assets. In general, two methods are provided. These are referred to as the cost method and the percentage method. Under the cost method, a depletion unit is calculated by dividing the capital value of the property by the total number of units still remaining in the property. The capital value of the property is based upon the fair market value at the time of discovery, except for oil, gas, and specified mining companies which must employ the original cost paid for the property. The depletion deduction is then calculated by obtaining the product of the depletion unit and the number of units extracted or produced during the year. Under the percentage method, employed by oil and the mining companies not permitted use of the fair market basis of valuation, the depletion allowance may be determined by application of designated percentages to gross income. In case the fair market valuation or the percentage method is used, the maximum depletion allowance is

8. Standard Oil Company of New Jersey, *Annual Report, 1946*, p. 25.

50 per cent of the net income prior to depletion. Whenever the corporation has a choice it may use the method that results in the larger deduction.

The investor will encounter great difficulty in attempting to evaluate the adequacy of depletion allowances. Perhaps his primary interest, however, is that the annual charge is sufficient eventually to write off the purchase price of his investment and pay off all prior ranking securities. Accordingly, in comparing the earnings of companies engaged in the production of natural resources, there is considerable justification for the investor to develop his own depletion charges based upon the price paid for the companies' stock and an estimate of the life of the properties. For this purpose, the following formula may be used:

$$\begin{array}{l}\text{Market value of company's stock}\\ \text{plus stated value of senior securities}\\ \text{less assets not subject to depletion}\end{array} \times \frac{\text{Annual production of property}}{\begin{array}{c}\text{Estimated quantity of}\\ \text{reserves in production}\end{array}} = \begin{array}{c}\text{Depletion}\\ \text{charge}\end{array}$$

Corporations are generally permitted to pay dividends out of net earnings calculated without considering depletion. This factor probably accounts for the common practice of excluding depletion from operating expenses. Particular care must be taken, therefore, to adjust the income of those corporations that do not include depletion charges in their published statements. For example, for many years Phelps Dodge followed the practice of charging depletion directly to surplus, which resulted in a consistent overstatement of earnings. In the 1950 annual report, this policy was reversed and 1949 earnings were restated on the new basis, resulting in a reduction of previously reported net income by $2.4 million or 47 cents per share.

Amortization

Amortization refers to the deterioration in the value of an asset because of the passage of time. For example, payments made for a leasehold which runs for a specified period of years must be written off during the life of the lease. Similarly, improvements in leased property revert to the landlord when the lease expires and must be charged off prior to the expiration date. Other instances of amortization arise from the necessity of gradually charging future earnings for the capitalized value of present expenses or of reducing the value of intangible assets such as patents and copyrights during their period of legal or economic usefulness. Charges of this sort may be heavy, as, for example, the typical high allowances set aside by the motion picture industry to amortize costly pictures.

Evaluation of the appropriateness of amortization charges on the

books of the corporation presents a tricky problem to the investor. In general, however, when the effect of the expiration of the life of the asset may be gauged, the annual charges should be related to the market price paid by the investor. When this determination cannot be made readily, as in the case of a large manufacturing company owning a considerable number of patents, virtually the only checking technique available to the investor is to make broad comparisons with companies of a similar nature.

Capitalization of Expenses

The question sometimes arises in accounting policy whether to charge the whole of an expense to the operations of a given year or to capitalize the expense and gradually write it off over a period of time. The problem is particularly acute in the petroleum industry where a number of companies capitalize the intangible costs of drilling producing wells whereas others charge the entire costs to each year's income. Over a period of years, these two methods of accounting produce similar results. In any one year, however, intangible drilling costs may be very high, and therefore, the reported earnings of the companies may vary considerably depending upon which accounting method is used. For example, in 1950, intangible drilling costs absorbed 83 per cent of the income of Amerada Petroleum and 46 per cent of that of Continental Oil. Both these companies characteristically charge these costs to expenses of operation. In the case of Texas Company, on the other hand, which since 1934 has followed the policy of capitalizing intangible development costs applicable to producing wells for subsequent amortization, intangible development costs absorbed only 23 per cent of net income.

These variations in the published statements of the petroleum companies aggravate considerably the difficulty of comparing reported earnings. Through analysis of the annual reports over a number of years, the investor may be able to iron out the distortions created in any single year. In some instances, too, information with respect to the effect upon earnings of designated accounting policies may be obtained directly from the company.

Non-recurring Charges

During the economic life of a corporation it is often confronted with events outside the normal course of its operations, such as strikes, suits, the advisability of liquidating a subsidiary or selling a portion of its assets, and numerous other situations of a similar sort. Accounting principles allow considerable latitude in the treat-

ment of these conditions. Accordingly, the impact of such events may eventually be reflected in the income account or it may be restricted solely to balance sheet adjustments. To the extent that accounting variations of this type exist, of course, the comparability of earnings reports is distorted. From the point of view of security analysis, it is probably a generally desirable procedure, whenever possible, to eliminate the effects on the income account created by extraordinary circumstances of a non-recurring nature.

In addition to the direct effects upon earnings of these non-recurring charges or credits, extraordinary events sometimes exert a strong indirect influence on a company's operations and eventually its income. Despite the fact that these indirect influences may be properly reflected in the income account from the accounting viewpoint, the unusual nature of the situation often suggests the advisability of the security analyst making appropriate adjustments in attempting to appraise the company's earnings capacity. A typical illustration of this condition is the severe impact on earnings caused by the great waves of strikes that swept the country after the close of World War II. Island Creek Coal, for example, estimated that in 1949 national strikes cost the company's stockholders almost $3.00 per share in loss of profits, maintenance, depreciation, and overhead. In 1947, the income of many telephone companies was severely depressed partly as a result of the general telephone strike of that year, but more seriously on account of the lag between cost increases and offsetting rate adjustments. In evaluating the earnings of these companies, the investor was confronted with the problem of determining whether this cost rate lag should be considered an unusual development or a typical retarding characteristic of the earning power of telephone companies.

The Problem of Reserves

Accountants generally recognize three types of reserves: valuation accounts, such as the reserves for bad debts or depreciation, which are established by debiting an expense account and crediting the appropriate reserve; liability accounts, such as the reserves for taxes or pensions, which are also created by a debit to an expense account and corresponding credit to the reserve; surplus reserves, such as the reserve for insurance or contingencies, which are established by direct appropriations from surplus.

Directors are usually permitted considerable discretion in establishing reserves, and accounting principles are not sufficiently precise

to prevent considerable flexibility in the handling of these accounts on the books of the corporation. Accordingly, it is often questionable whether or not specific reserves created by management should be charged to earnings or surplus. From the point of view of financial policy, this decision is undoubtedly an executive responsibility. It is possible that management may consider it in the best interests of the corporation deliberately to establish reserves so as to understate income in boom periods thereby providing a concealed reservoir of earnings from which to draw during lean years. This policy, however, is in direct conflict with the principles of security analysis which require the correct measurement of income each year in order to obtain a true insight into the earnings potential of a corporation at any particular time. It is, therefore, important that the investor recognize any steps taken by management to obscure the actual operating profit of a corporation over a designated period of time and that he make appropriate adjustments in analyzing the income account.

A typical illustration of management use of reserves to provide a stabilizing influence upon earnings over a period of years is the case of U.S. Steel, which has characteristically employed the reserve device for this purpose. During World War II, U.S. Steel adopted the policy of setting up a reserve for estimated additional costs arising out of the war. Between 1941 and 1944, the company charged $100 million to earnings, in four equal installments, for this purpose. Subsequently, however, U.S. Steel reversed this procedure and resorted to the reserve to absorb certain costs incurred during the year. This practice was continued during the postwar period, and by 1950 the reserve for excess war costs had been reduced to $13.3 million.

The reserve for excess war costs was apparently created by U.S. Steel to blunt the sharpness of the expected postwar decline in earnings. The results of this policy are strikingly revealed in the year 1945 when the cessation of special war orders and the reconversion to peacetime business reduced the company's rate of production. Despite this decline in the company's operations, reported income dropped from $60.8 million in 1944 to $58.0 million in the following year, a reduction of only 5 per cent. This mild earnings shrinkage in the face of a considerably greater contraction in sales is explained by the fact that in 1944, the company had deducted from earnings the usual $25.0 million for excess war costs, while in 1945, an accounting back-face occurred, and $38.2 million were siphoned off from costs and charged to the reserve account. Adjusting for these

entries, the earnings of U.S. Steel actually declined between 1944 and 1945 from $85.8 million to $19.8 million, or approximately 77 per cent.

It is the prerogative of management to report earnings to stockholders, within the framework of accepted accounting principles, so as to create an impression of stability. It is important, however, that the investor, in analyzing the financial characteristics of an enterprise, learn to penetrate this veil of accounting tactics. In appraising the position of U.S. Steel he should have been aware of the vast drop in income provoked by the decline in postwar operations. The subsequent upturn in peacetime business activity and the expansion in defense preparations that followed soon thereafter checked the decline in steel operations and the company was able to show a rising trend of earnings once more. But the operations of U.S. Steel are inherently susceptible to wide fluctuations. Efforts of the company to conceal this fact, therefore, and to report a comparatively stable level of income, cast a misleading light upon the nature of the corporation's activities, and when adopted should be recognized by the investors interested in evaluating the stock.

The Accountant's Viewpoint

For a number of years, accountants have recognized the distortions that could be created in reported net income figures by variations in the method of handling extraordinary charges. The solutions to permit greater degree of standardization have largely been centered in two conflicting proposals. One school of thought recommends preparation of an "all inclusive" statement, in accordance with which net income is considered a proprietary concept resulting in the inclusion of all items affecting proprietorship except for dividends and capital transactions. Advocates of this approach claim that the "all inclusive" statement is simple to prepare, minimizes the danger of manipulation of earnings, presents a more conservative statement inasmuch as over a period of time extraordinary charges tend to exceed the credits, and places upon the user of the statement the responsibility of determining which items should be eliminated from, or included in, the final net income figure.

The contending point of view recommends employment of the "current operating performance" concept, where the reported net income figure is intended to reveal what a company could earn in the operating environment of the period covered by the statement. Proponents of this viewpoint believe that many users of the income statement are not equipped to make independent judgments to eliminate

extraordinary items. Moreover, they hold that management and independent auditors are better able to differentiate between ordinary operating items and those whose inclusion would cast misleading implications with respect to an evaluation of the company's earning performance.

In an initial analysis of this problem, the Committee on Accounting Procedure of the American Institute of Accountants recommended use of the "all inclusive" statement, but suggested that certain extraordinary items should be shown in the income statements after the amount designated as net income. It later concluded, however, that users of income statements reported in this manner were often confused as to whether the earnings for the period were the amounts shown as net income or the final amounts indicated in the statement after deduction of the extraordinary items. Accordingly, the committee subsequently suggested use of the second method under which all unusual items are deflected from the operating income statement directly into the surplus account. Included among these extraordinary items were general purpose contingency reserves, inventory reserves, items which if included would impair the meaning of net income, excessive costs of fixed assets, and annual appropriations contemplating replacement of facilities at higher prices. It is probable that preparation of an income statement along these lines is more helpful to the investor because it provides him with an indication of what management believes is the net income for any year under that year's operating conditions. At the same time, however, the investor would have available in the surplus account a listing of all the items considered of extraordinary nature, which could be used to evaluate the character of the company's reported earnings potential.[9] Until some agreement is reached, however, on a method for bringing about a greater degree of standardization in income statements, the investor must study carefully the significant components in order to make certain that adequate comparability exists in the reported earnings of the companies in which he is interested.

9. Committee on Accounting Procedure, American Institute of Accountants, *Accounting Research Bulletins*, December, 1947, No. 32, October, 1948, No. 35.

INFLATION CONTROL THROUGH A NATIONAL WAGE POLICY

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THIS ARTICLE DEALS with a rather startling proposal by Dr. A. P. Lerner in his recent publication, *Economics of Employment*.[1]

I. THE SETTING AND THE PROBLEM

WITH THE IMPACT of Keynes' *General Theory*, and the implications which followed from the analysis therein, a growing conviction developed that the fiscal and monetary tools had been shaped which could provide a relatively stable economy at a high level of employment. Some fluctuations would still continue, but these were to be expected as a necessary characteristic of an economic system which produces "today" the goods to be purchased "tomorrow." Because of the uncertainty inherent in such a situation, minor fluctuations could not possibly be eliminated. But this was unimportant. What really mattered was that the business cycle could finally be controlled by instituting the appropriate policies. In Dr. Lerner's phraseology, we had only to apply the principle of functional finance and discard the casuistic principles of "sound finance." We need not discuss here how functional finance would work; it is all clearly presented in the numerous writings of Professor Lerner.

This school of thought grew in importance, and a very large proportion of the profession, especially among the younger economists, accepted the policy recommendations either wholly or in large part. In fact, failure to accept them tended to mark that person either as one of the oldtimers trained in the classical tradition, whose mind was no longer flexible enough to accept new ideas and to go along with Keynes in the "struggle of escape from habitual modes of thought and expression,"[2] or, if he were a younger man, one who had not grasped the teachings of the new doctrine. As a result, perhaps the only serious reservations about the "new economics" which one

1. Abba P. Lerner, *Economics of Employment* (New York: McGraw-Hill Book Co., Inc., 1951).

2. J. M. Keynes, *The General Theory of Employment, Interest, and Money* (New York: Harcourt, Brace and Co.), p. viii.

could express without being considered either senile or immature[3] (whether justifiably or not) were those based on purely *political* grounds, namely, that even though functional finance did provide the means by which the business cycle could be controlled, one must consider the dangerous possibility that it could lead to excessive government controls which in the long run might prove far more disastrous than the booms and busts themselves. But such expressions did not constitute any serious challenge to those who went along with Dr. Lerner.[4] For the *economic* solution had been found; and only a criticism with economic basis would be an acceptable threat to the new economics.

When the economic criticism was presented, the pleasant dream took on certain aspects of a nightmare in which the central figure and incubus is the labor union—an institution toward which the liberal economist, most ardent and numerous of the devotees of functional finance, is very sympathetic. What this nightmare is requires only brief comment here. Simply, the removal of the fear of depression through the inception of a full employment policy would introduce into the economic system an inflationary bias. This, it is argued, would be due to the fact that as full employment is approached the bargaining power of labor becomes excessive, and expresses itself in a series of higher wage demands and, thence, higher prices. Consequently, if the full employment output is to be purchased at the higher prices national monetary and fiscal policy must be directed at supporting the inflation. The authorities are thus confronted with a dilemma: national policy aimed at restraining the inflation will result in some of the full employment output going unpurchased—ergo, unemployment; or, if the inflation is supported, it will set up strains in the economy, via a distorted price structure, until the ensuing "hyper-inflation" results in economic collapse. Nor is the inflationary full employment period one in which general economic health prevails because of the hardships imposed on the recipients of relatively inflexible incomes. And even for the wage earners whose money receipts rise, real wages may not be rising at all, though they may feel psychologically richer because of the "money illusion."[5]

3. I am referring to the criticisms directed at the policy recommendations for eliminating the business cycle through the application of functional finance, and not to any of the criticisms levied against the theoretical structure of the *General Theory* itself.

4. See, for example, the contributions to S. E. Harris and others, *Saving American Capitalism* (New York: Alfred A. Knopf, Inc., 1947).

5. For a statement of the foregoing problem see M. W. Reder, "The Theoretical Problems of a National Wage-Price Policy," *Canadian Journal of Economics and Political Science* (February, 1948), pp. 46–61.

Manifestly, the foregoing problem is inherent in the institutional structure of the economy. But it is basically *economic,* and hence constitutes a serious blow to those who were convinced that a solution to the business cycle problem was at hand. Functional finance can still be applied to an economy suffering from "excessive" unemployment, but its usefulness is now restricted to the elimination of the "excess"; any attempt to go beyond this and absorb the remaining, say, five or six million people, means inflation. In short, inflation and unemployment are incompatible only while bottlenecks have not been reached and the bargaining power of labor is not excessive. But with the advent of either of these elements, inflation and unemployment may exist side by side.

The point at which prices begin to rise despite the presence of five or six million unemployed, Mr. Learner calls the *low full employment level.* This level can be reached, and no substantial drop from it need ever occur, so long as functional finance theory governs national economic policy. But five or six million unemployed is not what most people had in mind when they spoke of "full employment." A certain hard core of between-job unemployment was anticipated, but this was usually expressed in terms of about two million. What of the remaining three or four million people?

II. Dr. Lerner's Proposed Solution

It is to the elimination of this latter unemployment that Mr. Lerner addresses himself in his recent proposal, so that the economy might be raised to, and maintained at, a *high full employment level.* Functional finance alone cannot do this; a new tool must be devised which will defeat the increased bargaining power accruing to labor when low full employment is reached.

Dr. Lerner's device might be classified as an "automatic stabilizer," for the decision to act in one way or another (given a full employment policy) is not a matter of discretion, but is decided for the authorization by an *index of relative attractiveness.* This index is the basis of a program for maintaining stable prices, and a rising level of wages proportional to the per annum increase in labor productivity. In fact, because of the increase in productivity a policy of stable prices *and* stable wages is neither feasible nor just. And since workers prefer to see their real wages increase as a result of a rise in money wages rather than a fall in the price level (the money illusion), and because over-all adjustments to rising money wages are easier and involve less strain than adjustments to a falling price level, the pref-

erence is for a stable price level and rising money wages rather than the other way around.

The proposed program is to be preceded and accompanied by a determined effort to reduce "artificial and unnecessary"[6] frictions to the mobility of labor so that wages may perform their social function of allocating labor resources optimally: to equate for each individual the net advantages (monetary and non-monetary) of the several occupations for which his skills qualify him. Labor mobility and wage flexibility are thus essential, movements in wages taking place in response to shifts in the labor force, and in turn influencing to some extent the degree of shift in the distribution of the latter. In Dr. Lerner's terminology, the salary and conditions of work constitute the *relative attractiveness* of a given job as compared with the similar qualities of opportunities elsewhere. Weighing all factors, the worker, if free to do so, will move to that job which will give him the greatest net advantage, i.e., which is most attractive to him. "The final judges in a free society must be the workers themselves, free to move or not to move in accordance with their own judgment. . . ."[7]

We can, therefore, construct a measure or index of the relative attractiveness of each occupation, thereby determining which jobs are in greatest demand and which ones are undesirable. But while our program calls for a rise in the wage level *pari passu* with increasing labor productivity, i.e., 3 per cent per annum, not all wages should be raised by the same proportion. The extent of the raise is determined for us by the *index of relative attractiveness,* which is simply a ratio between those technically qualified individuals who desire employment in a given occupation (but are not currently thus employed) and those people already engaged therein. From the numerous indices so computed the *national average index of attractiveness of all occupations* is obtained, against which the individual indices may be compared. Those indices which are between one-half and twice the national average index are considered "not too different"[8] from it. For such occupations, money wages should be raised at an annual rate equal to the secular increase in productivity. Where the index is more[9] than twice the national average, wages should be kept constant; when the index is less than half the national average, wages should be increased at twice the standard rate, that is, 6 per cent annually. This is logical, for a high index means that too many people

6. Lerner, *op. cit.*, p. 213.
7. *Op. cit.*, pp. 213–14.
8. *Op. cit.*, p. 215.
9. The text reads "less" (p. 215), but it is clearly a mistake (in printing).

wish to enter that occupation, implying that the terms of work are more desirable than for the "standard" occupations (with indices between one-half and twice the national average). Similarly, a low index reveals that the occupation is unattractive: very few people wish to enter it and many are probably trying to leave it. Workers in the latter pursuits are therefore underprivileged with respect to other occupations, and their wages should be permitted to catch up. Wages of the underprivileged workers in "supra-standard" occupations must, conversely, be kept constant. The plan does not call for reductions in wage rates, in recognition of the institutional resistances that would be offered against such a policy.

The various indices, in short, reflect the free expressions of workers for the occupation they prefer. Such expressions as to occupational choice are basic to a system of free capitalism. Through their effect upon the indices of relative attractiveness, the course which wages should follow is *automatically* determined for us. For this reason, the plan may be classed with other "automatic stabilizer" devices—in the tradition of Henry Simons and Frank Graham.

III. An Evaluation

Dr. Lerner's wage policy, like many monetary and fiscal reforms proposed in the past, is, in certain respects, ingenious. As previously explained, it is designed to eliminate the inflationary potential inherent in a full employment policy, i.e., raise the economy from a low to a high full employment level and, concomitantly, prevent an inflation of serious proportions. But the program as presently conceived would be impossible to carry through. The following comments are intended to support this view and to suggest modifications in the plan.

1. The most obvious obstacle to be surmounted, of which Mr. Lerner is well aware, is the practical problem of securing the data necessary to permit the proper functioning of the plan. A large clerical force would be required to administer the program and gather the data. If the problem is complex enough, as it threatens to be, the tremendous clerical staff that would be needed might make the effective administration of the program too costly, i.e., it might be more economical to resign ourselves to a business cycle whose swings are dampened by the application of functional finance so that the economy's booms and busts are restricted to a maximum unemployment level of fixe or six million people (the amount which would exist at low full employment). Furthermore, the more frequently the indices are computed (as would be desirable in order to maximize their usefulness) the greater the need for calculating machines and calculating

machine operators. This would not be so serious a problem if the adjustments were relatively large and sporadic, but Dr. Lerner favors small and frequent changes because these would be less disruptive.[10]

Added to the need for a large force of statisticians, numerous clerks would be required to serve in the registration centers to be set up throughout the country, to which centers all members of the labor force could have access in order to make known their occupational preferences. The problem is further complicated by the fact that each registrant, according to Dr. Lerner's plan, would be permitted to indicate not only his first preference but also a second, and possibly even a third alternative. The difficulties of gathering and processing such data into a meaningful set of figures need hardly be emphasized.

2a. Assuming that the plan could be administered economically, there is the further practical problem of so defining our terms as to facilitate the gathering of the necessary data for effective operation of the program. Perhaps the most important and most difficult concept to agree upon would be "occupation." Professor Lerner seems to use this word interchangeably with "labor market"; but the latter generally has much broader meaning than the former. The difficulties attaching to this definitional problem may be illustrated as follows. Shall we define "occupation" broadly such as "teamster," and include in that term the operators of all vehicles which move on wheels excluding, perhaps, trains and trolley cars, but including all types of trucks, taxis, and buses, most operators of which belong to the Teamsters Union, AF of L? In the interest of reducing the difficulties of compiling the necessary data and computing the desired indices, it is advantageous to use broad concepts. This is clearly seen if we were to assume that all members of the labor force could be classified into the single occupation, say, "Productive Labor." Then, anyone seeking employment in this "occupation" would be an unemployed individual, and our index of relative attractiveness would simply be an index of unemployment. Manifestly, such an index would not tell us what we wish to know. Conversely, as the single "occupation" is broken down into various categories, the classification problems becomes increasingly difficult and tedious. And as these groups approach the other extreme of being too finely broken down (until at the limit each job held by any worker becomes an "occupation" unique unto itself) the problem of computing the virtually endless numbers of indices becomes overwhelming. Hence, ease of computation makes broad categories desirable.

But it is also very important to consider the problem from the

10. *Op. cit.*, p. 227n.

worker's standpoint. We must remember that the plan emphasizes the freedom of workers to make known their occupational preferences. This implies that the teamster (to return to him again) should be able, when registering, to express his preference not only for driving a truck, but also for driving a specific size of truck, carrying a certain kind of cargo, traveling over a given distance, and in a specified section of the country. A heavy truck with a large trailer involves greater strain in driving than does a quarter-ton pickup; a gasoline truck or one loaded with inflammable chemicals involves dangers that a truck loaded with vegetables does not; long hauls which require the driver to be away from home for several days and nights might be undesirable to some; and, finally, driving on good roads in climate where ice and snow are never encountered would certainly seem much safer than driving on roads where such hazards are frequently met with.

Clearly, as far as the worker is concerned a narrow category would be desirable. Furthermore, this truck driver might want to specify, together with the conditions considered above, the company he prefers to work for and the plant locality he would desire most. In fact, if it were possible, a worker would probably wish to be placed in a specific department of a given plant. And all of these preferences must be considered by the administrators of the plan if the workers are to succeed in finding employment where they desire it. Of course, the long-run operation of the principle of equal advantage would result in the non-monetary advantages being compensated for by the money wage and vice versa, within the given non-competing labor groups. But for this principle to operate freely, for workers to select occupations on the basis of both the monetary and non-monetary factors involved, and for the index of each job to reflect accurately its attractiveness relative to other jobs, a complete and detailed list of occupations would have to be maintained.

In short, what is an occupation? We have indicated the type of problems involved in trying to tie down this concept to something that would be empirically and administratively useful, and at the same time would permit the allocation of workers among jobs in a manner which would make them reasonably happy. Patently, these two goals conflict, and a compromise is necessary. Unfortunately, there is no reason to believe that a satisfactory compromise is available.

2b. The foregoing difficulties involve only one phase of the problem of terminology. Not only is it necessary to define the job, we must also define the worker. A comprehensive job-qualification

manual would have to be drawn up so that only properly qualified persons would be counted among those desiring employment in a given occupation. This problem is not as serious as the former, but some difficulties are involved. For example, does a man who has been learning a particular trade in a vocational school become eligible for that job classification, or do we set up a separate classification for him such as "apprentice"? Does a man who has a license to drive a passenger car qualify as a truck driver? If not, how much truck-driving experience must he first acquire? Should we, perhaps, accept the job qualifications that many trades have already established, or shall we assume that many of these qualifications are unnecessarily restrictive and are simply ways by which those already in the trade maintain privileges for themselves at the expense of outsiders? These and many similar questions must be answered before the program can be set up.

3. A third point, to be dispensed with very quickly, concerns the construction of the national average index number. Mr. Lerner's suggestion implies that a simple average of the individual indices would be suitable. This would mean that occupations of little economic significance (like the making of hand-cut nails) would have the same effect on the national average as would occupations at which thousands of men are employed. It would therefore be preferable to weight the individual index numbers in arriving at the national average, the weights being, say, the ratio of the number of people working in a given occupation to the total amount of employment in the economy.

4. Mr. Lerner's proposal reflects a strange combination of regard for some and disregard for other institutional factors. His plan, we have seen, is designed to cope with one such difficulty: the inflationary pressure brought to bear by labor as full employment is approached.[11] But in most respects, one noticeably feels Mr. Lerner's "lack of respect" for other institutional problems which would have to be solved in order to carry out his plan effectively. One formidable problem is that the employer must virtually give up any control he presently has over money wages. Dr. Lerner argues that the wage policy could "be integrated into our collective-bargaining customs";[12]

11. That this factor is fundamentally institutional is clear when we realize that it is the bargaining power of *organized* labor that first makes itself felt in the wage-price picture. Another (institutional) element which enters here is that the union leaders seem to feel the necessity of justifying their existence and their salaries by pressing for an increase in money wages (or in improved working conditions which to the employer usually means increased cost equivalent to a certain increase in money wages) every once in a while.

12. *Op. cit.*, p. 236.

that the employer and the union could continue their present bargaining arrangements to arrive at a mutually satisfactory wage. The only major difference, he argues, is that the publication of the various indices would merely make it known to both parties concerned what the underlying circumstances are, thereby facilitating more efficient bargaining. But in effect this means that an employer must accept the dictates of the indices, for he will be forced to do so by public opinion and other social pressures, i.e., by any fair-minded people called in to arbitrate the dispute. It is, of course, clear that if the structure of indices of relative attractiveness works as effectively as expected, then it is perfectly reasonable to expect an employer (and the union) to accept the wage increase indicated; but this need not make the program any more palatable to the employer (nor, for that matter, to the union) who has always looked upon the wage he will pay as something over which he has a certain amount of control. To sum up, the foregoing remarks simply indicate a serious institutional hindrance to the adoption of the program rather than any theoretical weakness inherent in it. And the more tenuous the relationship between the proposal and the institutional framework within which it must operate, the less seriously can it be considered for adoption.

Collective bargaining would still have an economic function to perform, but it would have to be restricted to the terms and conditions of work other than the money wage. Hence, with wage determination being effectively taken over by movements in the indices, it seems likely that bargaining over the other terms of work would intensify, especially with respect to those terms which most directly affect costs (such as paid holidays and the like).

5. Another group of institutional problems to be considered (and which Mr. Lerner seems to feel can be coped with whenever we set ourselves to the task) are those which may be subsumed in the phrase "economic frictions." Prerequisite to the successful operation of the wage policy is the prosecution of a comprehensive program for reducing the economic frictions which hinder the mobility of labor and capital, and which prevent the price mechanism from functioning as well as it does in the ideal model which the economist likes to set up as a standard of reference. A major source of these restrictions is the monopolistic and oligopolistic structure of many industries. One difficulty which such a market structure presents is a change in price or in selling costs rather than a change in output in response to changes in the demand for the product. For example, an increase in demand for a product should, if Mr. Lerner's program is to work properly, induce employers in this industry to hire more labor and

expand production. This would presumably come about through an improvement in the terms of work in the occupations in the industry so as to attract labor to it. The result would be increased output and, in turn, increased satisfaction of consumers. But in an imperfectly competitive industry the employers might prefer to raise the price, and to refrain from increasing output at all or to increase it by very little, so that the employment of labor in the industry is not increased. This would mean that the indices of relative attractiveness, like the price mechanism itself, do not allocate labor resources as effectively as they would in a freely competitive system. Dr. Lerner's answer to this would be that the completely successful operation of his wage policy is predicated on the assumption that such restraints would be vigorously sought out and, where possible, eliminated by encouraging freedom of entry of new firms and by the application of the antitrust laws so as to promote free competition. But if restrictions could be so successfully eliminated there would be no need for the adoption of his wage policy. That is, a successful antirestraint policy which promoted the mobility of labor and capital and reduced to a negligible amount the imperfections in the various markets would, together with functional finance, provide a level of low full employment closely approximating the high full employment level that Professor Lerner hopes to achieve through his wage policy.[13] *What need then for the wage policy?*

In short, much of the difficulty confronting the successful application of functional finance alone stems from imperfections in all segments of the economy. The implications which follow from Dr. Lerner's proposal are that those imperfections due to monopolistic elements in the non-labor sectors can best be removed by some kind of broad and vigorous antitrust policy; while the imperfections due to organized labor would best be overcome through the national wage policy. May we then not conclude that a government policy which could successfully reduce restraints to free competition in the complex of all other economic sectors could equally cope with the monopolistic restraints of organized labor, including the excessive bargaining power which labor acquires at the level of low full employment?[14]

To point up further the great dependence of the proposal on the

13. In other words, with economic frictions substantially eliminated, the low full employment level at which labor's bargaining power becomes excessive would be raised to the high full employment level Dr. Lerner presently conceives of.

14. The battle for union security has been conditioned by the fear of unemployment and bad labor-management relations. The adoption of a full employment policy and the effective improvement of resource mobility should remove, to a large extent, both reasons for the restrictive policies currently employed by the unions.

maintenance of effective competition in the economy, it is worth noting that Dr. Lerner's concern is entirely with the problem of inflation as it might be initiated by organized labor's wage demands. Presumably there is no danger of the upward price spiral being started by employers eager to take advantage of the increased demand for their products.[15] At least, Dr. Lerner does not mention this possibility as being even vaguely remote. This is probably due to his assumption that with the stabilization of wages, prices would take care of themselves; that is, if prices start to rise out of proportion to wages, the increased profits would soon be eliminated by the effective competition which national policy would strive to maintain. To convince labor to accept a stable wage policy by what might appear to it to be an empty promise to maintain an industrial structure competitive enough to prevent prices and profits from getting too far ahead of wages, would seem to be an herculean task. And when we add this to the institutional resistances likely to be offered by management's refusal to give up its remaining power over wage determination and by the many people already concerned over the "excessive" government payrolls and the prospects of *much* larger ones if the wage policy should be adopted, it seems proper to conclude that Dr. Lerner's proposal is not likely to be acceptable. In any case, it is suggested in this paper that the broad program proposed by Professor Lerner would be unnecessary if the first phase of it (a sweeping and vigorous antitrust policy) should prove successful. At least, any gains to be derived from carrying out the remainder of the program would probably not compensate us for the costs involved. The level of employment that could be achieved in an effectively competitive society through the application of functional finance would probably be as close to "high full employment" as is possible under free capitalism; and this level of employment would involve a virtually irreducible quantity of unemployment, which in terms of the present size of the labor force would be about two million or less.

15. As well as the increased *inelasticity* of demand with respect to price rises.

PORTFOLIO SELECTION*

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THE PROCESS OF SELECTING a portfolio may be divided into two stages. The first stage starts with observation and experience and ends with beliefs about the future performances of available securities. The second stage starts with the relevant beliefs about future performances and ends with the choice of portfolio. This paper is concerned with the second stage. We first consider the rule that the investor does (or should) maximize discounted expected, or anticipated, returns. This rule is rejected both as a hypothesis to explain, and as a maximum to guide investment behavior. We next consider the rule that the investor does (or should) consider expected return a desirable thing *and* variance of return an undesirable thing. This rule has many sound points, both as a maxim for, and hypothesis about, investment behavior. We illustrate geometrically relations between beliefs and choice of portfolio according to the "expected returns—variance of returns" rule.

One type of rule concerning choice of portfolio is that the investor does (or should) maximize the discounted (or capitalized) value of future returns.[1] Since the future is not known with certainty, it must be "expected" or "anticipated" returns which we discount. Variations of this type of rule can be suggested. Following Hicks, we could let "anticipated" returns include an allowance for risk.[2] Or, we could let the rate at which we capitalize the returns from particular securities vary with risk.

The hypothesis (or maxim) that the investor does (or should) maximize discounted return must be rejected. If we ignore market imperfections the foregoing rule never implies that there is a diversified portfolio which is preferable to all non-diversified portfolios. Diversification is both observed and sensible; a rule of behavior which does not imply the superiority of diversification must be rejected both as a hypothesis and as a maxim.

* This paper is based on work done by the author while at the Cowles Commission for Research in Economics and with the financial assistance of the Social Science Research Council. It will be reprinted as Cowles Commission Paper, New Series, No. 60.

1. See, for example, J. B. Williams, *The Theory of Investment Value* (Cambridge, Mass.: Harvard University Press, 1938), pp. 55–75.

2. J. R. Hicks, *Value and Capital* (New York: Oxford University Press, 1939), p. 126. Hicks applies the rule to a firm rather than a portfolio.

The foregoing rule fails to imply diversification no matter how the anticipated returns are formed; whether the same or different discount rates are used for different securities; no matter how these discount rates are decided upon or how they vary over time.[3] The hypothesis implies that the investor places all his funds in the security with the greatest discounted value. If two or more securities have the same value, then any of these or any combination of these is as good as any other.

We can see this analytically: suppose there are N securities; let r_{it} be the anticipated return (however decided upon) at time t per dollar invested in security i; let d_{it} be the rate at which the return on the i^{th} security at time t is discounted back to the present; let X_i be the relative amount invested in security i. We exclude short sales, thus $X_i \geq 0$ for all i. Then the discounted anticipated return of the portfolio is

$$R = \sum_{t=1}^{\infty} \sum_{i=1}^{N} d_{it} r_{it} X_i$$

$$= \sum_{i=1}^{N} X_i \left(\sum_{t=1}^{\infty} d_{it} r_{it} \right)$$

$R_i = \sum_{t=1}^{\infty} d_{it} r_{it}$ is the discounted return of the i^{th} security, therefore

$R = \Sigma X_i R_i$ where R_i is independent of X_i. Since $X_i \geq 0$ for all i and $\Sigma X_i = 1$, R is a weighted average of R_i with the X_i as non-negative weights. To maximize R, we let $X_i = 1$ for i with maximum R_i. If several Ra_a, $a = 1, \ldots, K$ are maximum then any allocation with

$$\sum_{a=1}^{K} X_{a_a} = 1$$

maximizes R. In no case is a diversified portfolio preferred to all non-diversified portfolios.[4]

It will be convenient at this point to consider a static model. Instead of speaking of the time series of returns from the i^{th} security $(r_{i1}, r_{i2}, \ldots, r_{it}, \ldots)$ we will speak of "the flow of returns" (r_i) from the i^{th} security. The flow of returns from the portfolio as a whole is

3. The results depend on the assumption that the anticipated returns and discount rates are independent of the particular investor's portfolio.

4. If short sales were allowed, an infinite amount of money would be placed in the security with highest r.

$R = \Sigma X_i r_i$. As in the dynamic case if the investor wished to maximize "anticipated" return from the portfolio he would place all his funds in that security with maximum anticipated returns.

There is a rule which implies both that the investor should diversify and that he should maximize expected return. The rule states that the investor does (or should) diversify his funds among all those securities which give maximum expected return. The law of large numbers will insure that the actual yield of the portfolio will be almost the same as the expected yield.[5] This rule is a special case of the expected returns—variance of returns rule (to be presented below). It assumes that there is a portfolio which gives both maximum expected return and minimum variance, and it commends this portfolio to the investor.

This presumption, that the law of large numbers applies to a portfolio of securities, cannot be accepted. The returns from securities are too intercorrelated. Diversification cannot eliminate all variance.

The portfolio with maximum expected return is not necessarily the one with minimum variance. There is a rate at which the investor can gain expected return by taking on variance, or reduce variance by giving up expected return.

We saw that the expected returns or anticipated returns rule is inadequate. Let us now consider the expected returns—variance of returns (E-V) rule. It will be necessary to first present a few elementary concepts and results of mathematical statistics. We will then show some implications of the E-V rule. After this we will discuss its plausibility.

In our presentation we try to avoid complicated mathematical statements and proofs. As a consequence a price is paid in terms of rigor and generality. The chief limitations from this source are (1) we do not derive our results analytically for the n-security case; instead, we present them geometrically for the 3 and 4 security cases; (2) we assume static probability beliefs. In a general presentation we must recognize that the probability distribution of yields of the various securities is a function of time. The writer intends to present, in the future, the general, mathematical treatment which removes these limitations.

We will need the following elementary concepts and results of mathematical statistics:

Let Y be a random variable, i.e., a variable whose value is decided by chance. Suppose, for simplicity of exposition, that Y can take on a finite number of values $y_1, y_2, \ldots, y_N$. Let the probability that $Y =$

5. Williams, *op. cit.*, pp. 68, 69.

y_1, be p_1; that $Y = y_2$ be p_2 etc. The expected value (or mean) of Y is defined to be

$$E = p_1y_1 + p_2y_2 + \ldots + p_Ny_N$$

The variance of Y is defined to be

$$V = p_1(y_1 - E)^2 + p_2(y_2 - E)^2 + \ldots + p_N(y_N - E)^2 .$$

V is the average squared deviation of Y from its expected value. V is a commonly used measure of dispersion. Other measures of dispersion, closely related to V are the standard deviation, $\sigma = \sqrt{V}$ and the coefficient of variation, σ/E.

Suppose we have a number of random variables: $R_1, \ldots, R_n$. If R is a weighted sum (linear combination) of the R_i

$$R = a_1R_1 + a_2R_2 + \ldots + a_nR_n$$

then R is also a random variable. (For example R_1, may be the number which turns up on one die; R_2, that of another die, and R the sum of these numbers. In this case $n = 2$, $a_1 = a_2 = 1$).

It will be important for us to know how the expected value and variance of the weighted sum (R) are related to the probability distribution of the $R_1, \ldots, R_n$. We state these relations below; we refer the reader to any standard text for proof.[6]

The expected value of a weighted sum is the weighted sum of the expected values. I.e., $E(R) = a_1E(R_1) + a_2E(R_2) + \ldots + a_nE(R_n)$ The variance of a weighted sum is not as simple. To express it we must define "covariance." The covariance of R_1 and R_2 is

$$\sigma_{12} = E\{[R_1 - E(R_1)][R_2 - E(R_2)]\}$$

i.e., the expected value of [(the deviation of R_1 from its mean) times (the deviation of R_2 from its mean)]. In general we define the covariance between R_i and R_j as

$$\sigma_{ij} = E\{[R_i - E(R_i)][R_j - E(R_j)]\}$$

σ_{ij} may be expressed in terms of the familiar correlation coefficient (ρ_{ij}). The covariance between R_i and R_j is equal to [(their correlation) times (the standard deviation of R_i) times (the standard deviation of R_j)]:

$$\sigma_{ij} = \rho_{ij}\sigma_i\sigma_j$$

6. E.g., J. V. Uspensky, *Introduction to Mathematical Probability* (New York: McGraw-Hill, 1937), chapter 9, pp. 161–81.

The variance of a weighted sum is

$$V(R) = \sum_{i=1}^{N} a_i^2 V(X_i) + 2 \sum_{i=1}^{N} \sum_{j>1}^{N} a_i a_j \sigma_{ij}$$

If we use the fact that the variance of R_i is σ_{ii} then

$$V(R) = \sum_{i=1}^{N} \sum_{j=1}^{N} a_i a_j \sigma_{ij}$$

Let R_i be the return on the i^{th} security. Let μ_i be the expected value of R_i; σ_{ij}, be the covariance between R_i and R_j (thus σ_{ii} is the variance of R_i). Let X_i be the percentage of the investor's assets which are allocated to the i^{th} security. The yield (R) on the portfolio as a whole is

$$R = \sum R_i X_i$$

The R_i (and consequently R) are considered to be random variables.[7] The X_i are not random variables, but are fixed by the investor. Since the X_i are percentages we have $\Sigma X_i = 1$. In our analysis we will exclude negative values of the X_i (i.e., short sales); therefore $X_i \geqslant 0$ for all i.

The return (R) on the portfolio as a whole is a weighted sum of random variables (where the investor can choose the weights). From our discussion of such weighted sums we see that the expected return E from the portfolio as a whole is

$$E = \sum_{i=1}^{N} X_i \mu_i$$

and the variance is

$$V = \sum_{i=1}^{N} \sum_{j=1}^{N} \sigma_{ij} X_i X_j$$

7. I.e., we assume that the investor does (and should) act as if he had probability beliefs concerning these variables. In general we would expect that the investor could tell us, for any two events (A and B), whether he personally considered A more likely than B, B more likely than A, or both equally likely. If the investor were consistent in his opinions on such matters, he would possess a system of probability beliefs. We cannot expect the investor to be consistent in every detail. We can, however, expect his probability beliefs to be roughly consistent on important matters that have been carefully considered. We should also expect that he will base his actions upon these probability beliefs—even though they be in part subjective.

This paper does not consider the difficult question of how investors do (or should) form their probability beliefs.

For fixed probability beliefs (μ_i, σ_{ij}) the investor has a choice of various combinations of E and V depending on his choice of portfolio $X_1, \ldots, X_N$. Suppose that the set of all obtainable (E, V) combinations were as in Figure 1. The E-V rule states that the investor would (or should) want to select one of those portfolios which give rise to the (E, V) combinations indicated as efficient in the figure; i.e., those with minimum V for given E or more and maximum E for given V or less.

There are techniques by which we can compute the set of efficient portfolios and efficient (E, V) combinations associated with given μ_i

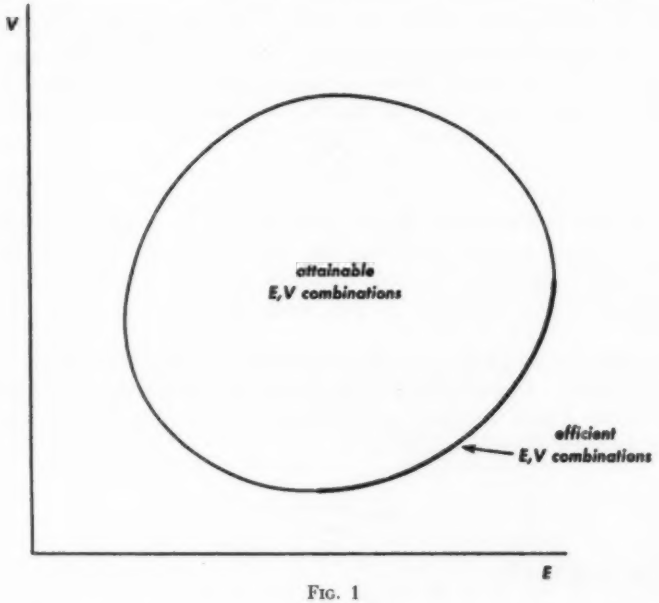

FIG. 1

and σ_{ij}. We will not present these techniques here. We will, however, illustrate geometrically the nature of the efficient surfaces for cases in which N (the number of available securities) is small.

The calculation of efficient surfaces might possibly be of practical use. Perhaps there are ways, by combining statistical techniques and the judgment of experts, to form reasonable probability beliefs (μ_i, σ_{ij}). We could use these beliefs to compute the attainable efficient combinations of (E, V). The investor, being informed of what (E, V) combinations were attainable, could state which he desired. We could then find the portfolio which gave this desired combination.

Two conditions—at least—must be satisfied before it would be practical to use efficient surfaces in the manner described above. First, the investor must desire to act according to the *E-V* maxim. Second, we must be able to arrive at reasonable μ_i and σ_{ij}. We will return to these matters later.

Let us consider the case of three securities. In the three security case our model reduces to

$$1) \qquad E = \sum_{i=1}^{3} X_i \mu_i$$

$$2) \qquad V = \sum_{i=1}^{3} \sum_{j=1}^{3} X_i X_j \sigma_{ij}$$

$$3) \qquad \sum_{i=1}^{3} X_i = 1$$

$$4) \qquad X_i \geqslant 0 \qquad \text{for} \qquad i = 1, 2, 3 .$$

From (3) we get

$$3') \qquad X_3 = 1 - X_1 - X_2$$

If we substitute (3′) in equation (1) and (2) we get E and V as functions of X_1 and X_2. For example we find

$$1') \qquad E = \mu_3 + X_1(\mu_1 - \mu_3) + X_2(\mu_2 - \mu_3)$$

The exact formulas are not too important here (that of V is given below).[8] We can simply write

$$a) \qquad E = E(X_1, X_2)$$

$$b) \qquad V = V(X_1, X_2)$$

$$c) \qquad X_1 \geqslant 0, \; X_2 \geqslant 0, \; 1 - X_1 - X_2 \geqslant 0$$

By using relations (a), (b), (c), we can work with two dimensional geometry.

The attainable set of portfolios consists of all portfolios which satisfy constraints (c) and (3′) (or equivalently (3) and (4)). The attainable combinations of X_1, X_2 are represented by the triangle $\overline{abc}$ in Figure 2. Any point to the left of the X_2 axis is not attainable because it violates the condition that $X_1 \geqslant 0$. Any point below the X_1 axis is not attainable because it violates the condition that $X_2 \geqslant 0$. Any

8. $V = X_1^2(\sigma_{11} - 2\sigma_{13} + \sigma_{33}) + X_2^2(\sigma_{22} - 2\sigma_{23} + \sigma_{33}) + 2X_1X_2(\sigma_{12} - \sigma_{13} - \sigma_{23} + \sigma_{33})$
$+ 2X_1(\sigma_{13} - \sigma_{33}) + 2X_2(\sigma_{23} - \sigma_{33}) + \sigma_{33}$

point above the line $(1 - X_1 - X_2 = 0)$ is not attainable because it violates the condition that $X_3 = 1 - X_1 - X_2 \geq 0$.

We define an *isomean* curve to be the set of all points (portfolios) with a given expected return. Similarly an *isovariance* line is defined to be the set of all points (portfolios) with a given variance of return.

An examination of the formulae for E and V tells us the shapes of the isomean and isovariance curves. Specifically they tell us that typically[9] the isomean curves are a system of parallel straight lines; the isovariance curves are a system of concentric ellipses (see Fig. 2). For example, if $\mu_2 \neq \mu_3$ equation 1′ can be written in the familiar form $X_2 = a + bX_1$; specifically (1)

$$X_2 = \frac{E - \mu_3}{\mu_2 - \mu_3} - \frac{\mu_1 - \mu_3}{\mu_2 - \mu_3} X_1 .$$

Thus the slope of the isomean line associated with $E = E_0$ is $-(\mu_1 - \mu_3)/(\mu_2 - \mu_3)$ its intercept is $(E_0 - \mu_3)/(\mu_2 - \mu_3)$. If we change E we change the intercept but not the slope of the isomean line. This confirms the contention that the isomean lines form a system of parallel lines.

Similarly, by a somewhat less simple application of analytic geometry, we can confirm the contention that the isovariance lines form a family of concentric ellipses. The "center" of the system is the point which minimizes V. We will label this point $\boldsymbol{X}$. Its expected return and variance we will label $\boldsymbol{E}$ and $\boldsymbol{V}$. Variance increases as you move away from $\boldsymbol{X}$. More precisely, if one isovariance curve, C_1, lies closer to $\boldsymbol{X}$ than another, C_2, then C_1 is associated with a smaller variance than C_2.

With the aid of the foregoing geometric apparatus let us seek the efficient sets.

$\boldsymbol{X}$, the center of the system of isovariance ellipses, may fall either inside or outside the attainable set. Figure 4 illustrates a case in which $\boldsymbol{X}$ falls inside the attainable set. In this case: $\boldsymbol{X}$ is efficient. For no other portfolio has a V as low as $\boldsymbol{X}$; therefore no portfolio can have either smaller V (with the same or greater E) or greater E with the same or smaller V. No point (portfolio) with expected return E less than $\boldsymbol{E}$ is efficient. For we have $\boldsymbol{E} > E$ and $\boldsymbol{V} < V$.

Consider all points with a given expected return E; i.e., all points on the isomean line associated with E. The point of the isomean line at which V takes on its least value is the point at which the isomean line

9. The isomean "curves" are as described above except when $\mu_1 = \mu_2 = \mu_3$. In the latter case all portfolios have the same expected return and the investor chooses the one with minimum variance.

As to the assumptions implicit in our description of the isovariance curves see footnote 12.

is tangent to an isovariance curve. We call this point $\hat{X}(E)$. If we let E vary, $\hat{X}(E)$ traces out a curve.

Algebraic considerations (which we omit here) show us that this curve is a straight line. We will call it the critical line l. The critical line passes through X for this point minimizes V for all points with $E(X_1, X_2) = E$. As we go along l in either direction from X, V increases. The segment of the critical line from X to the point where the critical line crosses

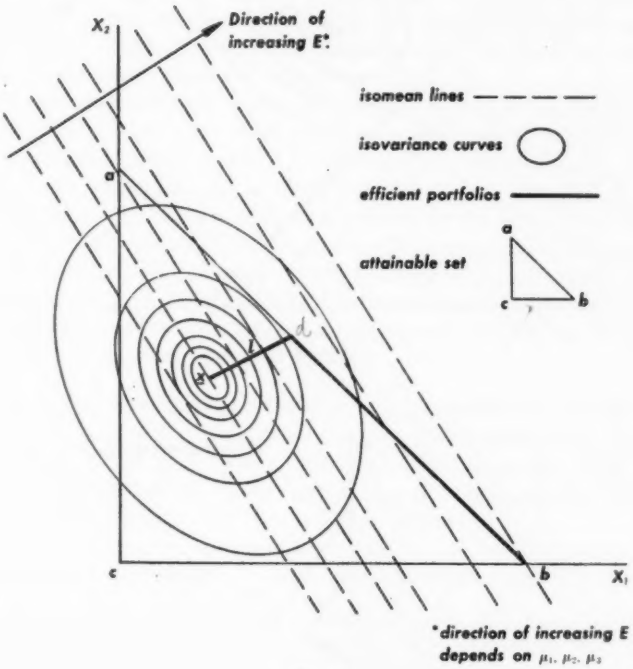

FIG. 2

the boundary of the attainable set is part of the efficient set. The rest of the efficient set is (in the case illustrated) the segment of the $\overline{ab}$ line from d to b. b is the point of maximum attainable E. In Figure 3, X lies outside the admissible area but the critical line cuts the admissible area. The efficient line begins at the attainable point with minimum variance (in this case on the $\overline{ab}$ line). It moves toward b until it intersects the critical line, moves along the critical line until it intersects a boundary and finally moves along the boundary to b. The reader may

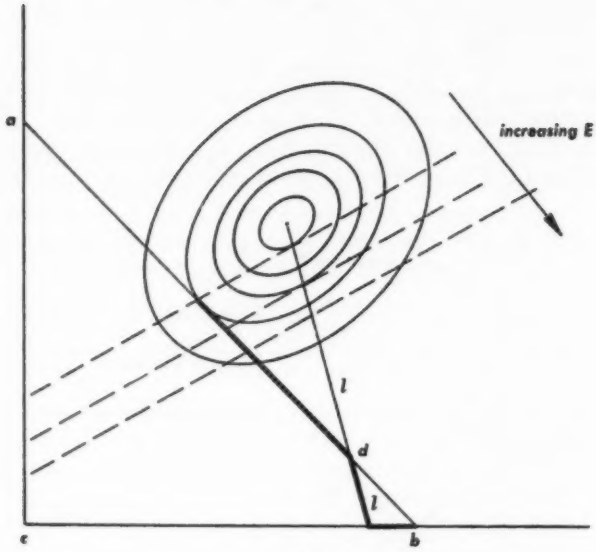
a
increasing E
l
d
l
c
b

FIG. 3

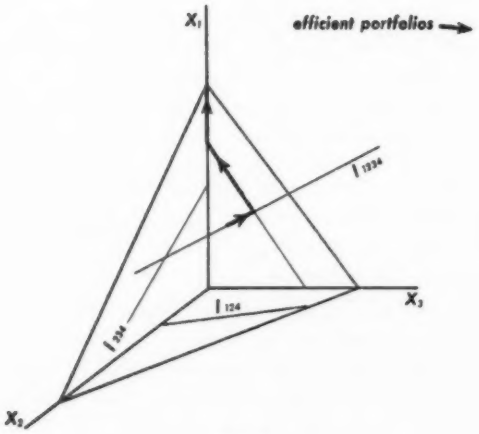
X_1
efficient portfolios
1234
124
234
X_3
X_2

FIG. 4

wish to construct and examine the following other cases: (1) X lies outside the attainable set and the critical line does not cut the attainable set. In this case there is a security which does not enter into any efficient portfolio. (2) Two securities have the same μ_i. In this case the isomean lines are parallel to a boundary line. It may happen that the efficient portfolio with maximum E is a diversified portfolio. (3) A case wherein only one portfolio is efficient.

The efficient set in the 4 security case is, as in the 3 security and also the N security case, a series of connected line segments. At one end of the efficient set is the point of minimum variance; at the other end is a point of maximum expected return[10] (see Fig. 4).

Now that we have seen the nature of the set of efficient portfolios, it is not difficult to see the nature of the set of efficient (E, V) combinations. In the three security case $E = a_0 + a_1X_1 + a_2X_2$ is a plane; $V = b_0 + b_1X_1 + b_2X_2 + b_{12}X_1X_2 + b_{11}X_1^2 + b_{22}X_2^2$ is a paraboloid.[11] As shown in Figure 5, the section of the E-plane over the efficient portfolio set is a series of connected line segments. The section of the V-paraboloid over the efficient portfolio set is a series of connected parabola segments. If we plotted V against E for efficient portfolios we would again get a series of connected parabola segments (see Fig. 6). This result obtains for any number of securities.

Various reasons recommend the use of the expected return-variance of return rule, both as a hypothesis to explain well-established investment behavior and as a maxim to guide one's own action. The rule serves better, we will see, as an explanation of, and guide to, "investment" as distinguished from "speculative" behavior.

10. Just as we used the equation $\sum_{i=1}^{4} X_i = 1$ to reduce the dimensionality in the three security case, we can use it to represent the four security case in 3 dimensional space. Eliminating X_4 we get $E = E(X_1, X_2, X_3)$, $V = V(X_1, X_2, X_3)$. The attainable set is represented, in three-space, by the tetrahedron with vertices $(0, 0, 0)$, $(0, 0, 1)$, $(0, 1, 0)$, $(1, 0, 0)$, representing portfolios with, respectively, $X_4 = 1$, $X_3 = 1$, $X_2 = 1$, $X_1 = 1$.

Let s_{123} be the subspace consisting of all points with $X_4 = 0$. Similarly we can define $s_{a1}, \ldots, a\alpha$ to be the subspace consisting of all points with $X_i = 0$, $i \neq a_1, \ldots, a\alpha$. For each subspace $s_{a1}, \ldots, a\alpha$ we can define a *critical line* $la_1, \ldots a\alpha$. This line is the locus of points P where P minimizes V for all points in $s_{a1}, \ldots, a\alpha$ with the same E as P. If a point is in $s_{a1}, \ldots, a\alpha$ and is efficient it must be on $la_1, \ldots, a\alpha$. The efficient set may be traced out by starting at the point of minimum available variance, moving continuously along various $la_1, \ldots, a\alpha$ according to definite rules, ending in a point which gives maximum E. As in the two dimensional case the point with minimum available variance may be in the interior of the available set or on one of its boundaries. Typically we proceed along a given critical line until either this line intersects one of a larger subspace or meets a boundary (and simultaneously the critical line of a lower dimensional subspace). In either of these cases the efficient line turns and continues along the new line. The efficient line terminates when a point with maximum E is reached.

11. See footnote 8.

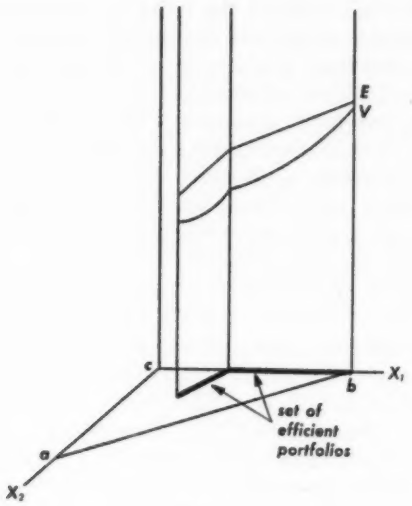
E
V
c
b
X_1
set of
efficient
portfolios
a
X_2

FIG. 5

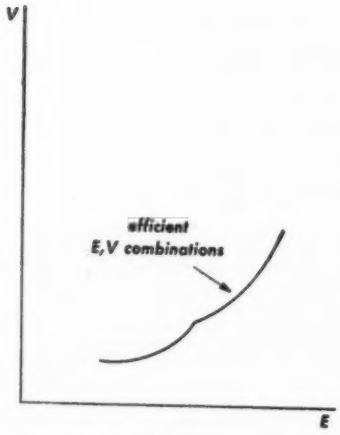
V
efficient
E,V combinations
E

FIG. 6

Earlier we rejected the expected returns rule on the grounds that it never implied the superiority of diversification. The expected return-variance of return rule, on the other hand, implies diversification for a wide range of μ_i, σ_{ij}. This does not mean that the E-V rule never implies the superiority of an undiversified portfolio. It is conceivable that one security might have an extremely higher yield and lower variance than all other securities; so much so that one particular undiversified portfolio would give maximum E and minimum V. But for a large, presumably representative range of μ_i, σ_{ij} the E-V rule leads to efficient portfolios almost all of which are diversified.

Not only does the E-V hypothesis imply diversification, it implies the "right kind" of diversification for the "right reason." The adequacy of diversification is not thought by investors to depend solely on the number of different securities held. A portfolio with sixty different railway securities, for example, would not be as well diversified as the same size portfolio with some railroad, some public utility, mining, various sort of manufacturing, etc. The reason is that it is generally more likely for firms within the same industry to do poorly at the same time than for firms in dissimilar industries.

Similarly in trying to make variance small it is not enough to invest in many securities. It is necessary to avoid investing in securities with high covariances among themselves. We should diversify across industries because firms in different industries, especially industries with different economic characteristics, have lower covariances than firms within an industry.

The concepts "yield" and "risk" appear frequently in financial writings. Usually if the term "yield" were replaced by "expected yield" or "expected return," and "risk" by "variance of return," little change of apparent meaning would result.

Variance is a well-known measure of dispersion about the expected. If instead of variance the investor was concerned with standard error, $\sigma = \sqrt{V}$, or with the coefficient of dispersion, σ/E, his choice would still lie in the set of efficient portfolios.

Suppose an investor diversifies between two portfolios (i.e., if he puts some of his money in one portfolio, the rest of his money in the other. An example of diversifying among portfolios is the buying of the shares of two different investment companies). If the two original portfolios have *equal* variance then typically[12] the variance of the resulting (compound) portfolio will be less than the variance of either original port-

12. In no case will variance be increased. The only case in which variance will not be decreased is if the return from both portfolios are perfectly correlated. To draw the iso-variance curves as ellipses it is both necessary and sufficient to assume that no two distinct portfolios have perfectly correlated returns.

folio. This is illustrated by Figure 7. To interpret Figure 7 we note that a portfolio (P) which is built out of two portfolios $P' = (X_1', X_2')$ and $P'' = (X_1'', X_2'')$ is of the form $P = \lambda P' + (1 - \lambda)P'' = (\lambda X_1' + (1 - \lambda)X_1'', \lambda X_2' + (1 - \lambda)X_2'')$. P is on the straight line connecting P' and P''.

The E-V principle is more plausible as a rule for investment behavior as distinguished from speculative behavior. The third moment[13] M_3 of

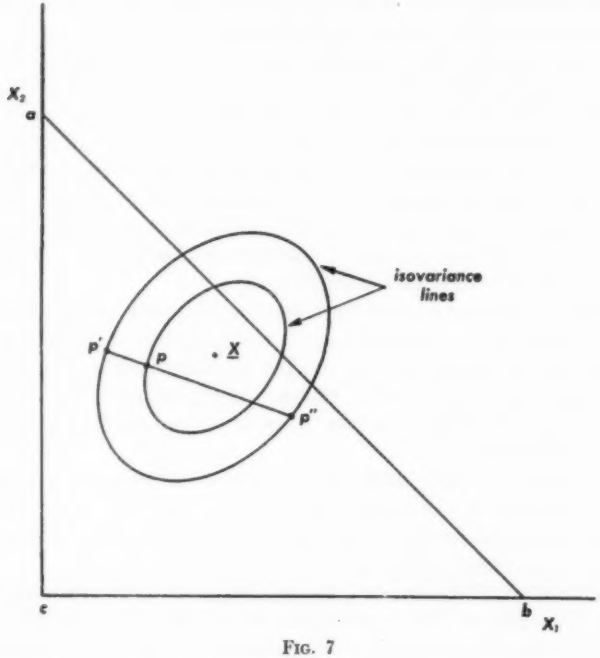

FIG. 7

the probability distribution of returns from the portfolio may be connected with a propensity to gamble. For example if the investor maximizes utility (U) which depends on E and $V(U = U(E, V), \partial U/\partial E > 0, \partial U/\partial E < 0)$ he will never accept an actuarially fair[14] bet. But if

13. If R is a random variable that takes on a finite number of values $r_1, \ldots, r_n$ with probabilities $p_1, \ldots, p_n$ respectively, and expected value E, then $M_3 = \sum_{i=1}^{n} p_i(r_i - E)^3$

14. One in which the amount gained by winning the bet times the probability of winning is equal to the amount lost by losing the bet, times the probability of losing.

$U = U(E, V, M_3)$ and if $\partial U/\partial M_3 \neq 0$ then there are some fair bets which would be accepted.

Perhaps—for a great variety of investing institutions which consider yield to be a good thing; risk, a bad thing; gambling, to be avoided—*E*, *V* efficiency is reasonable as a working hypothesis and a working maxim.

Two uses of the *E-V* principle suggest themselves. We might use it in theoretical analyses or we might use it in the actual selection of portfolios.

In theoretical analyses we might inquire, for example, about the various effects of a change in the beliefs generally held about a firm, or a general change in preference as to expected return versus variance of return, or a change in the supply of a security. In our analyses the X_i might represent individual securities or they might represent aggregates such as, say, bonds, stocks and real estate.[15]

To use the *E-V* rule in the selection of securities we must have procedures for finding reasonable μ_i and σ_{ij}. These procedures, I believe, should combine statistical techniques and the judgment of practical men. My feeling is that the statistical computations should be used to arrive at a tentative set of μ_i and σ_{ij}. Judgment should then be used in increasing or decreasing some of these μ_i and σ_{ij} on the basis of factors or nuances not taken into account by the formal computations. Using this revised set of μ_i and σ_{ij}, the set of efficient *E*, *V* combinations could be computed, the investor could select the combination he preferred, and the portfolio which gave rise to this *E*, *V* combination could be found.

One suggestion as to tentative μ_i, σ_{ij} is to use the observed μ_i, σ_{ij} for some period of the past. I believe that better methods, which take into account more information, can be found. I believe that what is needed is essentially a "probabilistic" reformulation of security analysis. I will not pursue this subject here, for this is "another story." It is a story of which I have read only the first page of the first chapter.

In this paper we have considered the second stage in the process of selecting a portfolio. This stage starts with the relevant beliefs about the securities involved and ends with the selection of a portfolio. We have not considered the first stage: the formation of the relevant beliefs on the basis of observation.

15. Care must be used in using and interpreting relations among aggregates. We cannot deal here with the problems and pitfalls of aggregation.

BOOK REVIEWS

Inventories and Business Cycles. By MOSES ABRAMOVITZ. New York: National Bureau of Economic Research, 1950. Pp. xxxv+632. $6.00.

This book deals with both theories and facts on the relationship of inventories to business cycles. The theories examined seem to include all of the important ones derivable from economic literature. The facts are in the form of primary and derived statistics and are the most comprehensive on this subject yet to appear between the two covers of one book. These statistics are superior to those available to earlier writers on the subject. In addition to over-all inventory figures, use is made of breakdowns into raw materials, goods-in-process, and finished goods, and into holdings by many different industries. The use of a substantial amount of data on a monthly basis permits greater sensitivity of time measurement than was formerly possible.

If Professor Abramovitz had done nothing more than bring together such material, his book would still have been extremely valuable to both economists and business men. The summarizations of the various theories and the collection and presentation of the statistics should help economists to get a deeper understanding of the role of inventories in the business cycle and help business men to plan their inventory policies.

The author has done much more than this. His critical examination of various theories brings out their points of agreement and conflict. His tests of the theories by the use of the wealth of data now available help the reader to separate the tenable from the untenable and even to reconcile certain theories which before seemed in conflict. Such mastery of critical analysis and knowledge of a field cannot be exhibited without laying the basis for the expectation and hope that it will result in new and useful generalizations. In this, Mr. Abramovitz does not disappoint. As a consequence, he has made an important contribution to general business cycle theory and given us what is undoubtedly the most important book to date on the more special problem of the role of inventories.

His basic data consist primarily of Simon Kuznets' estimates of value of inventories derived from company balance sheets and secondarily of thirty-eight statistical series of inventory holdings in physical units. The method consists essentially of measuring the timing, amplitude, and conformity of cyclical series as developed by Burns and Mitchell and set forth in their *Measuring Business Cycles*. The data are mostly from manufacturing industries.

The uniqueness of Professor Abramovitz' work is to be found in his explanations of the statistical relationships revealed by his research. His analysis is in terms that are perhaps more familiar to the business man ("goods-in-process," "production for stock") than to the business cycle economist. The book is organized in such a way as to serve the purposes of diverse groups of readers. It is divided into three parts. Part I, entitled "Theories, Materials, and Methods of Measurement," lays the background for the remainder, and covers only about a ninth of the total number of pages. The reader is warned in chapter 1 that the book is necessarily long and tedious and the helpful suggestion is made that the general reader can find the gist of the argument in a certain six of the twenty-one chapters.

The body of the book is in Parts II and III. Part II is confined to movements of the volume of inventories. Part III deals with the second derivative—"inventory investment." Inventory volume is found to follow business (output) with a lag of from six to twelve months, probably closer to six than twelve. On the other hand, inventory investment (changes in inventory volume) is found to coincide roughly in movement with output, although with a tendency to lag at the turning points. Furthermore, inventory investment is found to move in greater amplitude than the business cycle. From these and other observations, Professor Abramovitz comes to the conclusion that business cycles are longer and less severe than they would be if inventories moved synchronously with output. In the final chapter, he develops both theoretically and empirically the proposition that the role of inventories is more important in short cycles than in long cycles.

H. G. FRAINE
W. D. KNIGHT

University of Wisconsin

Financial Organization and Management of Business. By CHARLES W. GERSTENBERG. New York: Prentice-Hall, 1951. Pp. xviii+645. $5.00.

The first edition of this textbook (1924) marked the writer as one of the real pioneers in the field of corporation finance. The textbook was an immediate success. Of even greater importance, perhaps, it helped to set a general pattern which many, if not most, subsequent finance textbook writers have been content to follow. Gerstenberg revised his book twice (1932 and 1939). The present or third revised edition is posthumous and was carried out by his wife with the aid of Professors Anderson, Kelly, Starkweather, and Sauvain.

Major topics and their order of coverage are: (1) comparison of legal forms of organization, (2) corporate management and control, (3) stocks, (4) bonds, (5) capitalization and capital structure, (6) promotion, (7) selling securities, (8) securities markets and their regulation, (9) working capital, (10) income management, (11) surplus, reserve, and dividend policies, (12) expansion, mergers, consolidations, and holding companies, and (13) recapitulation, reorganization, and failure.

The third revised edition makes one major change in topical sequence. Promotion has been moved from the opening chapters of the book to the position indicated above. Two new topics have been added—capitalization and securities markets. These changes conform to current standard textbook practice in finance. Other changes which should be noted include bringing statistical data and legislative developments up to date, adding review questions at the end of each chapter, and eliminating textual and illustrative material here and there. The reduction of the book from 849 to 645 pages reflects the prevailing trend toward shorter textbooks. Despite these changes, the third revised edition is similar to previous editions in basic style and content.

The reviewer has no major quarrel with Gerstenberg's book as such. It still ranks as one of the best of the more advanced textbooks in the field of finance. The reviewer's quarrel is rather with the more or less standard format now found in all of these textbooks. Once valid, it has become out of step with important developments which have been taking place in the finance field.

Only a few of these developments can be mentioned here. They include: a relative shift in emphasis away from stock and bond financing toward such new forms of financing as term lending; growing emphasis on managerial control of working capital and fixed assets; effect of inventory and fixed asset valuation procedures on financing problems; growth of internal financing and its effects on the markets for funds; increasing emphasis on financial problems of small business; influence of taxation and other government policies on financing and financial problems.

Current textbooks by no means omit these problems. They do them injustice, however, by superimposing them on a framework which is still mainly concerned with detailing the legal problems of organization and expansion, and describing all of the possible types of stocks and bonds which exist and how they are sold. Only briefest attention is given to management of working capital and virtually none to financial considerations involved in acquiring and managing fixed assets. It is perhaps no accident that the present format developed in a period when stock and bond financing dominated the business world and when investment, business organization, and business law courses were not yet prevalent in the business-school world.

The reviewer is not alone in his belief that finance textbooks need a new format—see *Journal of Finance* (September, 1949), p. 243. This new format has yet to be worked out, but in general should take the managerial point of view. It cannot, of course, give a student the experience he needs to become an intelligent financial officer in a small, medium, or large business. It can and should, however, provide him with the material which will enable him to understand what financial executives do and the types of information they need.

Perhaps a new format will emerge and take over in the future. If so, Gerstenberg's posthumous work is a fitting climax to a trend which he helped build and which had justification in building. If not, it is a fitting reward to a pioneer whose work continues to live.

WALLACE P. MORS

Western Reserve University

Effects of Taxation, Executive Compensation, and Retirement Plans. By CHALLIS A. HALL, JR. Boston: Harvard University Press, 1951. Pp. xv+365. $4.25.

As the title indicates, it is rather difficult to characterize the content of this book. It is not, as one might suppose, a narrow study of the effects of taxation *on* executive compensation plans; nor is it a study of executive compensation in a broad sense. It is, instead, primarily a survey of the methods used by corporations to reduce the personal income tax burden of the more highly paid executives by shifting "income" to some future period when, presumably, the executives' earnings will be lower or, possibly, the income tax rates will be lower.

It is a research study, not a textbook. As such, it might be used as collateral reading in any advanced or graduate management course which considers executive compensation methods. It contains so much valuable information on present methods of deferred compensation that it definitely should be "required reading" for personnel and salary consultants, industrial management experts, and corporate officials concerned with executive compensation.

The Division of Research, Harvard Graduate School of Business Administra-

tion, through which the study was financed by a grant from the Merrill Foundation for the Advancement of Financial Knowledge, summarizes the contribution of Professor Hall's study as follows: "Corporate compensation and retirement plans may be extremely complicated, and there are many possible combinations of the various relevant terms and conditions. This book deals with a complex and diversified set of facts. For those not familiar with the subject, the number of significant distinctions to be drawn will come as a surprise, perhaps an unpleasant one. Much of the detail in this book, as in others of this series, is only for specialists in the area. But an awareness of the variety of arrangements which are available, and of the significance of seemingly trivial conditions, is important for executives who may be responsible for establishing or modifying compensation and retirement plans. It is equally important for outside observers who may be inclined to make sweeping and undiscriminating generalizations about payments to executives."

Unfortunately, the economic phenomena studied by Professor Hall depend almost entirely on the *annual* Revenue Acts and the multitudinous rulings of the Bureau of Internal Revenue. Their transitory nature is sufficiently indicated by the 484 rulings on the effect of terminations and the 226 rulings on the effect of curtailments of qualified plans, alone, by the Bureau between 1942 and 1948! Also, since the completion of the study, the Revenue Act of 1950 has altered the treatment of stock options!

Despite these continual changes, Professor Hall's study gives a quick view, for those who need it, of current deferred compensation plans, with proper attention to their wide variations. It will also be valuable as a basis for comparison, when similar studies are made in the future.

The format of the book warrants complimentary reference. Typography, layout, and workmanship leave nothing to be desired. The book has a complete and serviceable index.

RAYMOND RODGERS

New York University

Investment Principles and Practices. By RALPH EASTMAN BADGER and HARRY G. GUTHMANN. New York: Prentice-Hall, 1951. Pp. xx+858. $5.75.

Over the past generation the field of investment has undergone much change, both in content and in emphasis. These developments are mirrored in the successive revisions, since its initial appearance in 1928, of the standard work on investment here under review. The broad outlines of subject matter and philosophy have been retained, but each revision has sought to keep the material up to date. In particular, the present revision—the most thoroughgoing of all—has compressed certain topics in order to permit expanded treatment of others in a volume exceeding 800 pages in length.

The work is characterized by its comprehensive character. It envisages the entire field. Over one-half, roughly 460, of the 820 pages is devoted in Part II to a reorganized treatment of financial analysis, taking up in turn the special characteristics and analysis of various classes of investments, ranging all the way from United States Governments to those secured by real estate. Part I, "The Investment Markets," lays the groundwork in 170 pages, with condensed discussions of the investment market (the demand for, and supply of, capital) and of security

forms, together with the determinants of investment policy (in terms of the qualities that determine the suitability of different forms for the needs of different investors) and the returns on the several forms. Part III, in 120 pages, treats the mathematics of investment, the mechanics (including classes of transactions and how they are effected, the work of investment bankers, stock brokers, investment counsel and the SEC, and sources of investment information), the effect of the different tax categories on investment policy, and the movements of security prices. The concluding Part IV—which is new—in 70 pages considers the investment policies of financial institutions, trust funds, and individuals, including the role of life insurance in the individual's program. The volume concludes with a topical list of selected references.

The field of investment has grown to such vast proportions and has assumed such complexity that, inevitably, in a single volume a choice is necessary between an extensive and an intensive approach. The choice, of course, is not unique to investment, but is faced in every subject from introductory economics on. Thus, the elements of strength of a particular work are at the same time its elements of weakness. The present volume follows the tradition of earlier books on investment and contains something on almost every topic that could be held to be within the purview of investment. This fact enhances its value for reference purposes. Moreover, the volume gives the student or reader a comprehensive survey of the entire field, though at the risk of overwhelming him by the range of content and the mass of particular material.

The problem posed is well illustrated by Part II. Some academic users of the book may prefer to omit the discussions of the more highly specialized classes of investments, especially since in such cases a single chapter on a particular category, such as investment companies or state bonds, has to do double duty—give the reader sufficient background, as well as take up the necessary investment analysis. By making such omissions, those topics regarded as more important can be highlighted, either through presentation by the instructor or use of additional references.

Two further comments on the extensive type of treatment may be made: (1) It leads to emphasis on the particular at the expense of the general and to dispersion of related topics with corresponding loss of perspective and necessity for integration on the reader's part. Thus chapter 4 ("Determinants of Investment Policy"), chapter 7 ("Financial Analysis—General") and Part IV, chapters 26–28 ("Investment Policy and Practice") bear directly on one another. In particular, Part IV plunges at once into the specific problems of various types of investors, while the less than 40 pages of chapter 7 provide the "common core" of the analysis for the 460 pages of Part II. Another illustration is afforded by the diverse content of Part III, cited above, some of which is akin to Part I.

2. Another difficulty inevitable in an extensive treatment arises from the rapidity with which conditions change at the present day. Two examples may be cited. The treatment of federal income taxes in chapter 24 is already outmoded, both as to rates and as to offset of short-term losses against long-term capital gains. Again, in certain cases 1948 figures are the latest used. This gives an inaccurate picture in chapter 26 of the present status of mutual savings banks' investments, which, it may be added, may be further affected by the recently instituted federal income taxation of such institutions. Incidentally, if figures are to be used, why not in the same chapter include those available for savings and loan associations?

It must be stated, however, that judged by their own objective—to give the reader a comprehensive survey of the entire field—the authors have continued to do a good job. Their presentation is careful and systematic. Throughout, they have also provided some insight into the economics of the subject, in contrast to the purely financial and technical phases. True, some might object that the discussion of the interest rate in chapter 5 and of cycles in chapter 25 appears little influenced by the late Lord Keynes, none of whose writings, in fact, "rate" a place among the selected references. But differences in taste between reviewers and authors are inevitable.

W. H. STEINER

National Association of Mutual Savings Banks
New York City

Investment Analysis and Management. By LESTER V. PLUM and JOSEPH H. HUMPHREY, JR. Chicago: Richard D. Irwin, 1951. Pp. xiii+664. Trade ed. $7.35, college ed. $5.50.

Perhaps too few of our textbooks on investments have come out of Wall Street. In the past, many of our authors have been university professors, although some have had financial connections. It is consequently refreshing to examine this 1951 book written by two men who are both now making their careers in Wall Street. Lester V. Plum, who received his Ph.D. from Princeton, is economist for Calvin Bullock, and Joseph H. Humphrey, who received his M.B.A. at Harvard, is portfolio administrator for the same firm.

Since the recent publication of *Investment Analysis and Management* two revisions of well-known investments textbooks have made their appearance. Plum and Humphrey's 19 chapters and 664 pages is neither as exhaustive nor as inclusive a treatise as the 4th edition of Badger and Guthmann's *Investment Principles and Practices* (28 chapters, 858 pages) nor is it as intensive and rigorous as the third edition of Graham and Dodd's *Security Analysis* (53 chapters, 770 pages). This is not surprising because Plum and Humphrey state, "the purpose of their book is to serve as a practical introduction for beginners" and they "have prepared their book primarily as a textbook for the college student and the adult layman. . . ."

On the other hand *Investment Analysis and Management* is more rigorous than either Clendenin's *Introduction to Investments* (1950) or Dowrie and Fuller's *Investments* (1950) and is immeasurably more rigorous than Kamm's *Economics of Investment* (1951).

I believe the authors have fairly fulfilled their stated objectives even though some will wish that the book included a more comprehensive coverage of the field. More attention could well have been given, for example, to United States obligations, taxation and investment policy and to investment policy for various types of institutional investors. These were treated lightly if at all.

The book itself could be subdivided into five sections. Section I would include the first eight chapters, or about one-third of the text. It gives a conventional treatment to the "Economics of Finance," "Basic Concepts and Issues," "Classes of Securities," "Government and the Investor," "Corporate Reorganizations," "Investment Mechanics," and "Sources of Information." I would think that in the authors' desire "to omit judiciously in order to discuss adequately the topics of

real importance," an entire chapter is a great deal of emphasis to put on the topic of corporate reorganization when other topics are treated lightly or entirely omitted. The remainder of this section was adequately handled.

Section II includes chapters 9–15 and it also embraces somewhat more than one-third of the text. Here is the material on analysis: two chapters on industrials, two on railroads, two on public utilities, and one chapter which includes commercial banks, insurance companies, finance companies, real estate securities, and municipal bonds. The material on railroads is particularly well done in the space allotted and public utilities are also very well handled. The last chapter treats each item relatively briefly.

In Section III, I would put the next three chapters. Chapter 16 discusses business cycles, and chapter 17 discusses some factors used to discover the technical condition of the market. Both of these topics are adequately handled. Garfield Drew's *New Methods for Profit in the Stock Market* might have been referred to in the latter connection. Chapter 18, entitled "Alternatives for the Investor," includes growth stocks and an excellent elementary discussion of formula plans and dollar averaging.

In Section IV, I would put chapter 19 on "Investment Companies." This I would put by itself because it was written by neither Plum nor Humphrey. Also, I objected to much of its underlying philosophy as verging on propaganda for mutual funds and as lacking in the objectivity one desires in a textbook. For example, on page 580 it is stated that "in the case of open-end investment companies, total expenses usually run around ¾ per cent of assets and in the neighborhood of 8–12 per cent of gross income. . . . In the case of closed-end investment trusts, the ratios of expense to gross income or to assets very often runs considerably higher than in the case of the open-end or mutual type funds." Taking forty-seven open-end companies out of Wiesenberger's *Investment Companies,* pp. 116–17, and excluding the bond and preferred stock funds, I found that the average ratio of expense to net assets for 1950 was 0.7645 per cent. For thirty-one closed-end companies for 1950 the same ratio was 0.79 per cent (Wiesenberger, p. 243). The 1950 rate of return for the same forty-seven open-end companies, including dividends paid from net investment income only, averaged 4.86 per cent of the offering price whereas interest and dividends of the same thirty-one closed-end companies, excluding profits or losses from the sale of securities, averaged almost exactly 6 per cent of the average monthly closing price (Wiesenberger, p. 225).

Furthermore, Atlas Corporation is cited as a closed-end trust emphasizing special situations with the remark that "In the calendar year 1949, Atlas Corporation's total expenses (excluding interest) were equal to approximately 48% of gross income. It is obvious that a trust of this type is an entirely different species of investment vehicle than the average open-end mutual fund which emphasizes a steady and regular dividend to its shareholders and a minimum of speculative risk" (p. 580). It seems to me that this is an unfair example to choose, as Atlas' ratio of expense to gross income was not only by far the highest in its industry but was 33.5 per cent above the average (Wiesenberger, p. 243).

Further misleading emphasis in favor of mutual funds is found on page 584. Here "the arbitrary assumption that the individual investor should spread his investment risk over at least fifty different situations" is to me unrealistic and serves merely as an attempt to show that "brokerage commissions and other trading costs

would amount to considerably more than the cost of obtaining investment diversification through the purchase of (open-end) investment company shares."

Later (p. 594) in discussing the topic of "Investment Company Selection" the statement that "the buyer of investment company shares should give some consideration to the size of the company and to its recent rate of growth through sales of new shares" seems slyly to limit the purchase of investment company shares to open-end companies as the closed-end companies ordinarily sell no new shares. To me, chapter 18 was carefully but unfairly slanted in favor of the open-end funds and, in my opinion, a textbook should strive assiduously to be impartial and objective.

In conclusion I think that the book as a whole is sound and is written in a clear and readable fashion. It should make a good textbook in the field. Two appendixes cover elementary life insurance and elementary statistics. A thirty-five-page solutions manual for the questions at the end of the chapters accompanies the textbook.

JAMES A. CLOSE

Syracuse University

Money in a Maelstrom. By J. W. BEYEN. New York: Macmillan, 1949. Pp. 221. $3.25.

The author's participation in international conferences and organizations permits him to write with confidence "the story of international cooperation in the financial field during the last three decades." He draws on his experience as a bank executive, representative of the Netherlands on the Standstill Committee for German debts in 1931, president of the Bank for International Settlements 1937–1940, financial adviser to the Netherlands government-in-exile, member of the Netherlands delegation to Bretton Woods, and his present assignment as an executive director, representing the Netherlands and Norway, of both the International Monetary Fund and the International Bank for Reconstruction and Development.

The best feature of the book is the description of the long series of conferences and other efforts at international monetary co-operation—their weaknesses and contributions, and the groups and personalities that shaped their aims and results.

The book covers the full sweep of experiments in international monetary co-operation since World War I, beginning with the partial success of some of the early forms such as the Financial Committee of the League of Nations, down to Bretton Woods and the resulting two world financial organizations. Interwoven in the story is the author's own philosophy of internationally managed currency and an unusually cogent analysis of the classical gold standard and its successors.

The last chapter contains an excellent discussion of the conditions under which the Bretton Woods doctrine may be expected to operate through the World Bank and Fund. In spite of the possibly insurmountable obstacles to the successful fulfilment of the purposes of these organizations, the author remains faithful to their potentiality for bringing order out of monetary chaos. Here he reveals the pardonable bias of one closely associated with monetary and economic problems and with attempts to solve them through governmental organization and "interference."

The style of the book is lucid and non-technical, and the complexities of the subject are handled in a lively and interesting manner. The fact that the book was

written before Korea does not diminish its importance, although more recent developments will postpone the fulfilment of its plea for international monetary co-operation.

HERBERT E. DOUGALL

Stanford University

American Monetary Policy. By E. A. GOLDENWEISER. New York: McGraw-Hill, 1951. Pp. xvi+391. $4.50.

Written by one of the great financial statesmen of our times, this book makes a classic contribution to the field of monetary policy and management. Having served as director of the Division of Research and Statistics of the Federal Reserve Board for over two decades, Mr. Goldenweiser is uniquely fitted for the task which he has undertaken, viz., a survey of the role of the Federal Reserve System since its inception in 1914.

The early chapters discuss the role of money in the economy, bank reserves, objectives of monetary policy, and Federal Reserve instruments of monetary management. A stable and rising plane of business activity and avoidance of inflation and deflation are viewed as the main monetary objectives. However, the means of monetary control, which operate principally through bank reserves, are looked upon as only one of many approaches that should be made to the problem of stability.

The next group of chapters traces Federal Reserve philosophy and policies throughout the thirty-five-year period against the background of economic developments. Special emphasis is accorded to post war monetary policies, including a well-reasoned discussion of the inconsistency of Federal Reserve support of bond prices during a period of inflationary pressures.

The final three chapters deal with international and institutional relationships of the Federal Reserve and with proposals for structural changes. The gold standard is weighed and found wanting as a device to solve current international monetary problems. Leadership in international finance should be assumed by the United States in keeping with its position as the greatest power in the world economy. Treasury influence on Federal Reserve policy should be curbed by Congress along the lines suggested by the Douglas Committee. Fiscal and monetary authorities should be separated. The Federal Reserve Board should be replaced by a governor of Cabinet rank and two deputy governors in order to give it equal position with the fiscal authority and an organization better adapted to constructive, timely action. These are only samples of the numerous recommendations made on a wide range of problems. The book is concluded by a useful 53-page appendix of monetary and banking statistics.

Reading this small volume is a delightfully stimulating experience for anyone interested in this field. Mr. Goldenweiser's breadth of understanding and deep appreciation of the values of life underlie his analysis of all narrower monetary questions. He has a rare capacity to cut to the core of complex problems, and to present them in a simple, yet colorful, manner. His observations on a wide variety of financial issues are always penetrating and stimulating.

The merits of the work for the audience to which it is addressed do, however, necesarily limit its usefulness to the advanced scholar. He will often wish that opinions expressed could be supported by more comprehensive theoretical analy-

sis. Nevertheless, despite the author's modesty in stating that "it is not primarily a book for scholars," this group will find many original ideas and a considerable amount of theoretical analysis worthy of their attention.

All federal legislators and policymakers should be required by law to read this book; also, bankers, businessmen, and students have much to learn from its pages.

G. W. WOODWORTH

Dartmouth College

Business Cycles. By D. HAMBERG. New York: Macmillan, 1951. Pp. xvii+621. $5.00.

This book was written as a text for the undergraduate course in business cycles. In the Preface the author assigns himself four main objectives. First, the content should be "focused on the subject of business cycle theory" rather than leaning too much in the direction of business cycle history and policy as in most of the present texts. Second, it should be "rigorous in its analysis of the main theories and tools which have been advanced to explain cyclical phenomena" without becoming overwhelming for the undergraduate upperclassmen. A third objective is the creation of "a common language and a common tool of analysis into which all the various theories might be transposed" to avoid the confusion to undergraduates caused by "endless terminological difficulties." Fourth, although the emphasis should be on theory, there should be some analysis of actual business cycles and some discussion of public policy.

The book is divided into three parts. Part I, the introductory section, explains the terminological concept and develops the framework for theoretical analysis. The chief aim of this section, according to the author, is to acquaint the student with the "essential tools of national income analysis" because basically "all business cycle theories are concerned with fluctuations in national income and employment" (p. 46). The approach is strictly Keynesian. One chapter is devoted to consumption, savings, and investment, and their roles as determinants of the level of national income. Another chapter explains the multiplier and acceleration principles, the interaction between them, and their role in fluctuations in national income.

Part II is devoted to an analysis of the major theories of the business cycle, and there are chapters on some strategic factors which influence the general pattern of cyclical behavior and the international spread of business cycles. The Keynesian, the pure monetary, the overinvestment, the Schumpeterian, and the underconsumption theories of the cycle are summarized and briefly appraised. In general, the explanations of these major theories, although necessarily brief, are well done. The author was only partially successful in transposing the theories into common terminology, much of the terminology used being that of the original authors. In a few instances, the emphasis or interpretation given is open to question. For example, the author states that one of the two essential elements in the Austrian monetary overinvestment theory of the cycle is "the elasticity of bank credit and its effect on the rate of interest" (p. 203 and footnote). The essence of this theory, however, is that a disequilibrium between the market and natural rates of interest *initiates* an expansion or contraction of bank credit as the case may be.

Part III begins with a chapter devoted to an attempted synthesis of the major theories of the cycle. Subsequent chapters deal with the application of this theory

to actual cycles in the United States during the period 1919 to 1949 and monetary and fiscal policies as stabilization devices. Both in his synthetic theory of the cycle and his analysis of actual cycles in the United States, the author assigns the major role to the behavior of investment and the propensity to consume. The analysis of monetary policy is mainly in terms of the effects of changes in interest rates on investment, savings, and the demand for credit. There appears also the now familiar dichotomy that small changes in interest rates are ineffective and large changes are too effective. Perhaps this is one reason why monetary measures are regarded as "admittedly weak in and of themselves" (p. 518) and if used alone as "well-nigh futile" in major depressions (p. 531).

The analysis of monetary policy would be materially strengthened if it were directed more to the effect of monetary actions on the supply and availability of credit, and less toward the effects of changes in interest rates. The primary objective of monetary policy is to influence the flow of expenditures through regulation of the amount of money people have available to spend; the effects of changes in interest rates are of secondary importance.

Fiscal policy is regarded as a more effective tool than monetary policy. "Fiscal tools are smoother and more gentle in effect, and they are *direct*" (p. 561; italics author's). The use of fiscal tools involves "considerably less danger of turning inflation into deflation" and gets at the volume of spending directly by influencing the public's disposable income. Here again it is hard for the reviewer to understand how monetary measures can be so much weaker than fiscal and yet involve considerably more danger of turning inflation into deflation, especially when the monetary instruments are so much more flexible.

Space does not permit detailed criticism. Many students of the business cycle, as does this reviewer, will probably find themselves in disagreement with the author at times both on points of theory and as to degrees of emphasis given various factors. This would be true, of course, of most any textbook. This reviewer, to cite only a few instances, disagrees with the emphasis given to the role of investment in cyclical fluctuations and the danger of secular stagnation in mature economies as a result of a chronic deficiency in investment; the nature of the analysis of the effects of monetary measures and the position that monetary policy is considerably less effective than fiscal policy; and the view that "In effect, the interest payments on the government debt are being used as a form of *subsidy*" (p. 601; italics author's).

Nevertheless, *Business Cycles*, by Hamberg, has much to recommend it. The scope is comprehensive, the emphasis is on theory, the analysis is thorough, it is well written, and it is exceptionally free of mechanical errors. This book will undoubtedly be a welcome addition to the list teachers will want to give serious consideration when selecting a text for their courses in business cycles.

CLAY J. ANDERSON

Federal Reserve Bank of Philadelphia

Income and Wealth. By ERIK LUNDBERG, ed. Cambridge, England: Bowes and Bowes, 1951. Pp. xv+297. 30s.

The International Association for Research in Income and Wealth, organized in 1947, held its first meeting at King's College, Cambridge, in 1949. Of the

twenty-three papers presented at the inaugural sessions, eight are assembled in this volume under the editorship of Professor Lundberg of Stockholm. (Others have been published elsewhere.)

Of most interest to the non-specialist are the four papers which deal with the uses of national income data in national planning and budgeting in the United States of America, Great Britain, France, and the Netherlands. To an American reader, the European material is necessarily most informative. The most ambitious of the four countries in applying these statistics appears to be the Netherlands. Mr. Struve, in discussing the Dutch procedures, also gives the clearest and least technical approach to what has come to be called the "nation's budget" approach, although the concepts involved are different from ours and the forecasting applications are largely omitted. On this last head, the British report has most to offer, but the British methods will be difficult to transplant here. The British, to judge by the paper of Mr. Jackson, begin by estimating the expected foreign balance, and then proceed from there, using concomitant (unlagged) relationships throughout. In discussing the relative lack of application in France, M. Marczewski sounds a needed warning against undue overaggregation. The totals should, in his view, be broken down more fully by economic and social classes than they are in France, if they are to be used with any degree of success.

The other papers deal with national income methodology and technique, and are for the specialist almost exclusively. Mr. Stone, for example, sets up and fills in for the United Kingdom as of 1948 a system of double-entry accounting substantially more elaborate than that now in official use. In particular, Stone's system distinguishes within each sector between the operating (producing) and appropriation (consuming) accounts. Two additional sectors (labor and lending) are added to the usual quadripartite scheme of business, households, government, and foreigners. The advantages secured through the additional elaboration might have been made somewhat clearer than they are.

Whatever Professor Kuznets has to say in this field must always be listened to with respect. His essay in this volume concerns the estimate of the government contribution to national income, and represents a break with his earlier views. Previously he had favored classifying as government final product, and including in national income, only that part paid for by direct taxes on consumers. Now he joins the ranks of those who, classifying government services by type, would count expenditures on only such services as are clearly other than "intermediate products." Kuznets reiterates his well-known objection on welfare grounds to the present practice of considering the government a final consumer and considering all its purchases of goods and services final products *ipso facto*. Applying his own proposal, Kuznets wishes the contributions of the private sector entered net of all taxes, and to add back the values of the direct services of governmental bodies. His treatment is worked out in double-entry detail for a number of hypothetical cases, but assumptions of constant cost and completely inelastic private demand (in real terms) simplify the development at the expense of realism. An interesting paradox is also involved. When the government diverts what would otherwise be private final products to its own intermediate services to business, the level of real income falls despite the rise in economic activity.

Two remaining papers deal with adjustments for price changes over time. Dr. Derksen of the United Nations assembles the available results from a number of countries, using official indexes as deflators. Mr. Reddaway suggests, following work by Geary, a less conventional and more complex approach. He would deflate

the inputs and outputs of each sector separately by sectional price indexes. His essay is in the nature of a progress report, however, and is relatively brief.

This volume, although small relative to the publications of the National Bureau Income Conferences, is a worthy companion to those studies. No student who uses the American series with any regularity can afford to neglect its international counterpart.

M. BRONFENBRENNER

University of Wisconsin

American Financial Institutions. By HERBERT V. PROCHNOW. New York: Prentice-Hall, 1951. Pp. x+799. $6.00.

This well-edited collection of chapters contributed by twenty-five writers is subject to two of the weaknesses which any collection may exhibit. The first of these is a tendency toward a lack of continuity among chapters. The editor presumably attempted to secure a degree of continuity by encouraging his contributors to emphasize the comparative method and the historical approach.

Perhaps a greater degree of interrelatedness might have been obtained by more emphasis upon the function of each institution in the production of national income, as in chapter 13. Financial organizations are productive as they provide services, serve as channels for the movement of money savings into capital formation, and function as providers of the means of payment and/or the exchange of debt claims. An introductory chapter setting out the nature of the problem to be approached and presenting some definitions would be of value in providing a foundation for the excellent individual studies.

The second weakness is that of repetition of material by different authors treating closely related topics. There exists some overlapping in chapters 3, 4, and 5 dealing with banks and "monetary institutions," repetition of the description of the roles of stock market middlemen in chapters 11 and 12, and duplication of effort in chapter 21 and several other chapters. Chapter 21, which deals with government regulation of financial institutions, might well have omitted discussion of the matters dealt with elsewhere and substituted instead an analysis of the changing attitudes of the public and regulators toward financial businesses.

That specific criticisms of the text of this work are few is a tribute to the contributors and their editor. There are a few cases of anachronism, such as the statement that a volume of one million shares traded on the New York Stock Exchange constitutes a "busy day" (p. 64). There is a lack of differentiation between a plane of living and a standard of living (p. 274). The discussion of the savings and loan association does not sufficiently stress the differences in liquidity between that institution and a commercial bank. The impression is given that the "transfer" functions of stockbrokers and dealers are one and the same with their investment banking functions (p. 274). While it is true that the same firms are involved in the two kinds of behavior, there exists a real difference in the importance of the functions in terms of the survival of the private decision economy.

The statement on page 595 regarding the regulation of branch establishment by national banks should be amended. Since the Banking Act of 1933, national banks in a given state have the power, under certain conditions, of opening branch offices to the extent that state banks are permitted by state law, e.g., to engage in state-

wide banking where state banks have that privilege. The discussion does not make this clear.

This book fills a real need in the literature. Nearly all of the chapters are of superior quality. They provide treatment of material which goes beyond the elementary level. The volume should serve as an excellent reference or textbook for a senior course on financial institutions.

PRESTON MARTIN

University of Southern California

Life Insurance Mathematics. By ROBERT E. LARSON and ERWIN A. GAUMNITZ. New York: John Wiley, 1951. Pp. vii+184. $3.75.

This book might well by subtitled "An Introduction to the Mathematics of Life Insurance, or Menge and Glover Rewritten and Brought Up to Date." It uses the new actuarial notation approved by the International Congress of Actuaries, bases its examples on modern mortality tables and, I suppose, also modern interest rates, and presents a new treatment of the subjects of valuation and non-forfeiture benefits made necessary by the adoption of the Standard Valuation and Non-Forfeiture Laws. Its being thus up to date is an advantage over the older work by the authors named above; but it does not have the clarity, the logical organization, and the pedagogical effectiveness of Menge and Glover.

It is, however, a book well worth buying for those interested in the subject. There are not many elementary books that attempt to bring order into the vast conglomerate that constitutes actuarial mathematics. Numerous students or other persons interested in life insurance will find in this work the bridge they may traverse safely although haltingly to the comprehension of the more advanced texts and copious literature of actuarial science.

Chapter i is a discussion of the mortality table. The authors start out with a treatment of probability that looks at first as if it would have clarity and vigor, along with brevity, but shortly they proceed to a direct discussion of the l_x column of the mortality table rather than approach it by the simpler and more logical rate of mortality method. Next they consider the sources and characteristics of mortality tables. In the discussion and their illustrative example of the construction of such a table, they are disorganized and diffuse, with the net result that the student will probably find his understanding somewhat less than it was before. This technique of the authors is displayed on a number of occasions.

In the treatment of interest and life annuities in chapters ii and iii and of life insurance in the next chapter, the authors handle their material more skilfully. Also, the reader has become somewhat accustomed to their peculiar style. The elements essential to an understanding of the subjects are all here, although a better ordering of them would bring more clarity; and more explicit statement of assumptions, greater rigor. Perhaps the most useful device to further the understanding of the material here presented is a careful development of the technique known as verbal argument. It is used for establishing various algebraic relations. In their handling of this technique, the authors do very well indeed.

The subject of net level reserves, taken up in chapter v, follows very facilely from the groundwork set up on the previous chapters on insurance and annuities. The standard topics of retrospective and prospective methods are covered. A better formal proof of the equivalence of the two methods than the authors provide

would have been of value. The problem sets would be much improved by the inclusion of more examples involving algebraic relationships.

The advanced topics in chapter vi are treated briefly, as is proper in a work of this type. They are thus restricted to annuities payable other than annually, increasing annuities, and increasing insurance. Many interesting relationships among the symbols for these annuities and insurances can be developed verbally. I am surprised that the authors did not carry over to this chapter this technique, which they used with good results in previous ones.

Modified reserves form the subject matter of chapter vii. Let it be sufficient to say that the material is pursued to its lair with an unerring and relentless thoroughness from which vantage point it proceeds to lay our authors low. They attempt too much here. Their discussion of assets shares and cash values, including treatment under the Standard Non-Forfeiture Laws, in chapter viii, and gross premiums in chapter ix are brief and adequate enough. They present all that the beginning actuarial student, the lay reader, or the general mathematical student will need, or care, to know.

There are four appendixes in the book. Except for Appendix II, in which natural and net level premiums are compared, they contain tables of various actuarial values and basic functions useful in reading the text and getting numerical solutions to the problems and answers to the problem sets. The book also has a subject index and an index of symbols. It is clearly and attractively printed on paper of good quality in type size that is easy to read.

EUGENE DORFMAN

Guardian Life Insurance Company
New York City

Life Insurance. By JOHN H. MAGEE. Revised edition; Chicago: Richard D. Irwin, 1951. Pp. xxi+818. $7.35.

Life insurance is a very important institution in the United States today. It not only represents a form of big business, but also is considered by millions of people as a means of financial security. Throughout the decades it has grown until there are now over $200 billion of life insurance in force and approximately eighty million policyholders in the country. More than half the population own life insurance. Because the subject of life insurance is so paramount in America at present, any treatment of insurance, such as this one by Magee, must be given careful consideration.

In the Preface the author states that "The Revised Edition represents so thorough a rewriting and reorganization that it is close to being an entirely new book." The work is a very thorough treatment of life insurance, which is divided into six parts. Part I describes the economic and social background, basic insurance principles, the institution, and uses of life insurance. Part II considers mainly the various kinds of life insurance policies and annuity contracts available today. Part III discusses such subjects as fundamental legal concepts, policy conditions, insurable interest, beneficiaries, optional settlement plans, incontestability, and programming the life estate. Part IV considers mortality tables, premiums, reserves, surpluses, dividends, surrender values, and risks. Part V describes pension plans and various kinds of insurance such as industrial, group, and business life. Attention to taxation and the organization, regulation, investments, and methods of operation of insurance carriers is reserved for Part VI.

This book should serve well as a textbook for classes in life insurance consisting of college or university students and individuals interested in making life insurance their life work. It is thorough, readable, and understandable. Moreover, there are many tables and figures presented as aids in explaining the subject matter. Anyone mastering the contents of this book should be quite able to discuss intelligently almost all phases of life insurance.

It is doubtful that all the material in this book could be adequately covered in, say, a typical three-semester-hour university or college course for beginners. Over eight hundred pages of rather condensed information is considerable subject matter to cover in such a short period. Where time is a limiting factor, it is highly probable that the instructor would have to eliminate from his list of assignments such chapters as numbers i, iii and parts of xix, which mainly present some of the economic, institutional, and historical aspects of life insurance. No difficulties, however, would be encountered in making adjustments of this nature.

One might find some fault with the arrangement of the book. Why was a treatment of life insurance carriers placed near the end of the work? This is an important phase of almost any course in life insurance and is usually presented fairly early by the instructor in charge. In fact, some teachers might prefer to describe insurance carriers to their students before proceeding with a thorough presentation of insurance policies. It is probably as vital for students of insurance to learn about insurance carriers as about the contracts sold by these companies. One might also question the wisdom of relegating the subject of taxation to the last chapter. It seems that the book would have been made more teachable by having placed Part VI immediately after Part I. However, the order of presenting the contents of a book is of rather minor importance; any good instructor can rearrange the material to suit his needs and wishes.

The chapter on programming the life estate is one of the outstanding features of the book. It is an excellent chapter in which practically all phases of the usefulness of life insurance are revealed. Because the role played by life insurance in connection with such subjects as mortgage redemptions, education funds, retirement incomes, and planning estates is thoroughly described, one cannot truthfully state that a life insurance policy is merely a "poor man's will." The treatment of the impact of inflation on life insurance, however, is not very convincing. The author states that "it has sometimes been stated that an insured may suffer in the event that a policy matures when dollars are relatively cheap." He also states that "There are two answers to this objection. One is that dollars are most valuable when the greatest need arises. . . . The other answer is that, if the dollars made immediately available are not needed at the time, they need not be accepted from the insurance company but may remain in the hands of the company at interest until a more favorable time develops for their acceptance and investment." It would seem more realistic and practical to indicate that price inflation, or a noticeable decline in the purchasing power of money, is harmful to policyholders and beneficiaries.

Considered as a whole, this work is a valuable contribution to the literature of life insurance. Few books are perfect, and the imperfections of this one are minor. It represents much thought and research. It should prove to be very useful for all those who are teachers and students of life insurance.

FRED R. NIEHAUS

University of Colorado

Mathematics of Finance. By ALBERT E. MAY. New York: American Book, 1951. Pp. viii+264. $3.00.

In the mathematics of finance, the major problem is to impart comprehensive facility in the evaluation of annuities. When you set out to write a book to teach this skill, you may choose to write for the mathematically literate or for those who are short on mathematics. The first should give you a compact volume whose elegance charms the accomplished mathematician. The second may be wordy but more intelligent to those who are rusty in mathematics.

The mathematician is intrigued by the logical approach of presenting general annuity definitions and formulas first. Even though they are more formidable looking, they have a decided advantage in generality and flexibility. Special cases lead naturally, without requiring new mathematical principles, to the simpler-appearing formulas. The psychological approach, that appeals more to the mathematically backward, is to start with the limited formulas and to work up to the more complicated general formulas.

The writer of the text for a college course in the mathematics of finance is more fortunate then the writer of a book intended for finance executives. He can at least assume that students have a reasonable minimum of mathematical equipment. He can make a gesture in the direction of refresher work by merely listing definitions and formulas for arithmetic progression, geometric progression, binomial expansion, and logarithms.

What charms the mathematician repels the practical finance executive. Unless he happens to be a technician, your average executive, even if his business is finance or credit, is weak or cold in such mathematics. He needs the psychological type of presentation. Concession to this weakness too often degenerates into a text which emphasizes mechanical manipulation of numbers in formulas retained by rote memory.

Albert E. May, assistant director, Racine Extension Center, University of Wisconsin, has chosen the psychological approach, but has skilfully kept his college text within bounds and has avoided the evil of mechanical manipulation. He can assume that the students know the necessary algebra and need only a nine-page Appendix to review logarithms, exponential equations, geometric progressions, and the binomial expansion.

To engage the interest of the student without revolting him by stiff mathematics, each new topic is informally introduced. Illustrative problems are then presented, with reasons stated for each step. The solution for the first illustration in each group is given in complete detail; successive illustrations require more and more of the steps to be filled in by the student. A generous group of exercises, graded for difficulty, is provided for written work after each topic. Answers are given in the Appendix to all odd-numbered problems.

College instructors will be interested in four departures from the usual mode of presentation: (1) In simple interest work, the student is continually reminded that S is principal plus interest rather than just some letter associated with P by the equation $S = P\ (1+rt)$. (2) The student works immediately with all types of simple annuities (including annuities due and deferred annuities) without dividing into types. The symbols $a_{\overline{n}|i}$ and $s_{\overline{n}|i}$ are stressed as combinatorial symbols which give the value of a sequence of payments in one lump sum at a definite time. This lump sum can then be taken to the desired day by accumulating or discounting. (3) Each general annuity is reduced to an equivalent simple annuity by use of

previously developed theory and appropriate algebraic manipulations. (4) Approach to life insurance is based on the underlying principle that on any day the value of all the net premiums must equal the value of all the benefits. Without introducing the concept of probability, the solution of each problem in life insurance and life annuities, results from an equation of value based on expected receipts and benefits as determined by the mortality table.

These departures merely emphasize in different ways the fundamental concept, stressed in the treatment, that sums of money which are separated by a long interval of time may actually be equivalent to each other through the action of interest.

Chapter topics cover simple interest and discount, compound interest, simple annuities, amortization, bonds, depreciation, general annuities, and life insurance. Tables included in the book are: Commissioners 1941 Standard Ordinary Mortality Table; CSO Commutation Columns at 2 per cent; Five-Place Logarithms; Number of Each Day of the Year; Compound Interest Tables, reproduced photographically from James W. Glover. Mr. May has written a lucid, teachable college text in which the fundamentals of investment theory are built on a few simple, important formulas. The student is drilled in the basic principles until he is able to adapt these formulas to a wide variety of problems. The finance executive interested in investment mathematics can use this text to advantage as a refresher or reference source.

The executive in consumer credit will find it less adequate. Consumer credit outstandings in the nation approach $20 billion and the annual volume is probably twice as much. Approximate formulas and methods are widely used in the accounting books of this sizeable segment of the nation's financial structure. Consumer credit grantors, banking department regulations, and special statutes under which various consumer credit institutions operate, compute rates and yields by the constant ratio method and refunds by the so-called 78ths method or direct-ratio method. The finance executive working in the field of consumer credit will find no mention of these and similar approximate methods and only a bare handful of illustrations of direct interest to him.

M. R. Neifeld

Beneficial Management Corporation
Newark, New Jersey

Modern Life Insurance. By Robert I. Mehr and Robert W. Osler. New York: Macmillan, 1949. Pp. xiii+769. $5.00.

This book has been tailored primarily for use as an introductory college text. While designed for college use, it should serve any layman as a painless and not-too-technical tool for gaining an understanding of the life insurance business. The authors, in their desire to appeal to the undergraduate reader, have written in the language of the undergraduate. While this informal and colloquial style of writing might cause shudders to run through academic perfectionists, it is a refreshing breeze in a field often filled with solemn tomes. Gaining and keeping the interest of the student reader in this modern world of competing attractions requires clever merchandising of the subject material. The authors have done a very good merchandising job. They have not been above injecting a bit of humor into the book, for which they will get an extra set of wings in collegiate heaven. It is not necessary to bore students to death in the educational process.

The organization and order of presentation of the subject matter differ from

most other texts in the field. To show that the nature and functions of the life insurance industry are not totally unlike those of any other industry, the book has been broken down into an explanation of the product, the cost, the market, and last, the industry itself. This approach gets the product (the various types of contracts) in the hands of the consumer (the student) at the beginning of the sales interview (the start of the course). This sales-minded approach serves to stimulate the interest while the rest of the story is being filled in. It may be said that the authors have been generally sales-minded throughout the book, a bias or partiality that they deny. It is most difficult for any person vitally interested in the insurance business, no matter how hard he tries to avoid adopting the viewpoint of the industry, to be completely objective.

Part I starts out with an introduction to, and discussion of, the bases of insurance, making the book usable as a first text in insurance. This general introductory chapter on risk and probability is designed to be omitted when other insurance courses have gone before. After this brief introduction to the field, the authors start right out with a presentation or display of the product in Part II, which unfolds the various types of contracts and the law relating to the contracts. Part III takes up the costs of supplying the protection; the selection of risks, premium computation, and financial management. Part IV breaks down the market into four need categories: individual, family, business, and estate and tax planning. The family need chapter contains a very welcome discussion on programming. Part V, on life insurance companies, deals with types of carriers, variations, and typical organization of both home and field offices. Part VI, dealing with the industry, traces historical development, regulation, and social values of life insurance. An Appendix contains specimen documents.

This book is well balanced, well organized, and authoritative. It should prove to be a popular text on life insurance.

DAVID R. FITCH

Texas A. & M. College

The Nature and Tax Treatment of Capital Gains and Losses. By LAWRENCE H. SELTZER. New York: National Bureau of Economic Research, 1951. Pp. xxii+554. $7.50.

After nearly forty years of income tax experience, we in the United States have not yet made up our minds as to the appropriate tax treatment of capital gains. The handling of these revenues in successive tax laws has been an uneasy and shifting compromise between those who would treat them as ordinary income and those who maintain that they are not income at all. Clearly more light is needed on the subject, and this new addition to the National Bureau of Economic Research series of Fiscal Studies provides the objective and thoroughgoing study that can assist in reaching a reasonable solution of the problem.

The volume begins with a history of the taxation of capital gains and the reasons for special treatment. It discusses fully both the legal and economic concepts of capital gains and losses, and the arguments for and against special tax treatment. This is followed by an analysis of actual gains and losses since 1917, and their distribution over different periods and among different income classes. The analysis is supported by a two hundred page appendix giving the detailed statistical data. This discussion ends with an account of the tax treatment of capital gains and losses in other countries and competing proposals for taxation in the United States.

The author is to be congratulated both on the thoroughness of the study and the objectivity with which this controversial subject has been presented. He finds some evidence that the high tax rates of 1917–21 discouraged the realization of capital gains in the high-income groups, and strong evidence that high rates on medium-term capital gains in 1934–37 postponed liquidation in these income groups. However, he believes that the low rate on capital gains was not an important factor in the boom of the nineteen-twenties, and he notes that although the 1942 tax changes brought the tax on capital gains to the highest level since 1921, the realized gains increased. He concludes that the tax has been only a minor factor in determining the price movements and trading in capital assets.

The statistical data show that actual revenues have been small, possibly negative, but that exemption would not reduce problems of administration since the real problem is the decision as to what constitutes capital gains. On the contrary, the administrative problem could best be solved by treating capital gains as ordinary income. The varied forms of tax avoidance, to which one chapter is devoted, leave the reader with wonder that the tax has yielded as much as it has in fact.

Those who expect a conclusive answer to the tax treatment of capital gains may be disappointed, but those who are aware of the complexities of the problem will profit greatly by this addition to our knowledge of the subject. Some of the arguments pro and con have been answered, and much factual material has been made available. How, in the end, we should deal with capital gains will depend on how we want our income tax to affect economic behavior.

MABEL NEWCOMER

Vassar College

Taxable and Business Income. By DAN THROOP SMITH and J. KEITH BUTTERS. New York: National Bureau of Economic Research, 1949. Pp. xxv+342. $4.00.

This volume makes a significant contribution to a highly technical yet vitally important subject. The concept of taxable business income had its origin in the corporate tax excise law of 1909, and the subsequent historical developments are outlined in a Foreward by George O. May.

The study is divided into two parts. The first compares and contrasts the differing concepts of business and taxable income, and the second sets forth the quantitative divergencies in national income statistics caused by these differences.

Separate chapters are devoted to the conceptual differences arising from such accounting questions as surplus adjustments, depreciation and depletion, inventory accounting, bad debts, interest, purchase and retirement of bonds, including bond premium and discount. Divergencies in taxable and business income arise from differences in timing, in use of the surplus account, in the treatment of capital gains, in depletion allowances, and in constitutional limitations.

Over the years concepts of taxable income have not been without their effect on business accounting. This is true not only of accelerated amortization but also of methods of inventory valuation.

In the second part of the study, the authors reach the conclusion that, on the average, for a large number of companies from 1929 to 1936 book profit and statutory net income did not differ greatly. Book profit typically exceeded statutory net income but the differences was usually less than 10 per cent. In mining and public utility companies, however, book profits exceeded statutory net income by as

much as 50 per cent. The reasons for these divergencies are discussed in great detail.

In its scholarly and comprehensive analysis of the subject, this volume should prove of great utility to the accountant, the tax expert, the student of tax and fiscal policy, and the government official concerned with the economic effects of tax legislation.

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Commercial Treaties and Agreements. By HARRY C. HAWKINS. New York: Rinehart, 1951. Pp. vii+254. $3.50.

This study of provisions generally included in international treaties and agreements is a welcome addition to the literature on international trade and commerce. It is certain to fill a need long felt by many whose interest lies in the field of international trade. The expanded international role of the United States adds further importance to the usefulness of this study.

Professor Hawkins' objective in writing *Commercial Treaties and Agreements* has been to provide a text for students and others so that they can identify the major and the minor policies beneath technical treaty language, as well as the techniques by which such policies are carried out. He has limited his consideration of commercial agreements to three kinds: (1) treaties of establishment; (2) treaties of commerce; and (3) treaties of navigation. The first deal with the treatment of persons; the second with goods originating in the territories of the parties; and the third with treatment accorded to vessels under the national registry of the parties. In addition he analyzes revenue and protective customs duties including treaty commitments regarding such duties, the most-favored-nation principle in international trade, tariff bargaining, charges on imports other than ordinary customs duties (such as statistical taxes and entry fees), export duties, internal taxes, import quotas, methods of paying for imports, and state trading.

The student of finance will find especial significance in the analysis of establishment provisions because of their influence on the flow of investment capital between countries. "Foreign capital will not enter a country unless it has some assurance that it will receive fair treatment, and without increased foreign lending it will be more difficult to raise standards of living throughout the world" (pp. 16-17). The author points out that foreign capital may be obtained through the International Bank for Reconstruction and Development or through public and private sources within individual countries. Since private foreign investment will be needed in addition to public investment, it is desirable for this type of investment to be in the form of plant and equipment and be accompanied by technological know-how.

Even though quantitative restrictions, exchange controls, and state-trading operations have become important international trade regulators in recent years, tariffs remain the most common means of trade regulation. Taxes on imports or exports may be for protective, preference, or revenue purposes. Tariffs purely for revenue will naturally have no protective effect and logically should be applied to domestic production as well as imports. Analyzing the Keynesian protective tariff theory, the author concludes that, "Protectionism, by whatever name it is called or for whatever reason it is applied, hinders the establishment of a safe pattern of

international relations" (pp. 58–59). Statistical taxes and entry fees do not usually hinder trade movements between countries, but they could be raised by a country so as to make tariff concessions inoperative. Provisions for freezing such charges or for negotiating proposed increases in such charges where included in trade agreements will usually eliminate the danger of their misuse.

The book is designed as a general treatment of international treaties and agreements. Naturally a broad treatment has definite disadvantages, one of which is the skimming over of important material. For example, one regrets that the author devotes only a few lines to treating the problem of tax incidence. Some of the stated generalizations have only limited applicability to specific instances, for example, to Canadian-American trade relations.

This well-organized book is carefully written in simplified language. Its thorough, up-to-date treatment of the general theories and practices of international agreements will make it a highly useful text and reference work in the field of international trade and economics, one which can be read with great profit by both the professional and the layman.

JACOB O. KAMM

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The Balance of Payments. By J. E. MEADE. New York: Oxford University Press, 1951. Pp. xvi+432. $5.50.

The Balance of Payments by J. E. Meade (now professor of commerce, with special reference to international trade, in the University of London), "deals with the international aspects of the closely related problems of preserving a balance in the financial payments between nations and, at the same time, of maintaining full employment domestically within each nation." This is the first of a series by Professor Meade on the Theory of Economic Policy. The second volume, "dealing with such matters as the control of foreign trade, of the international migration of labour, of international capital movements, and of other international transfers of purchasing power," is now in preparation.

The present study fills a gap in modern economic theory. During the past fifteen years, following the work of Keynes in employment and Ohlin in international trade theory, there has been a tremendous outpouring of articles and rather specialized books dealing with the problems of balance-of-payments equilibrium in general and the relationship thereof to domestic full employment policy in particular, but there has not been a well-rounded treatise on balance-of-payments problems which discusses all of these and the relevant classical ideas in one place.

In some respects it is unfortunate that Professor Meade has cited other works neither in footnotes nor in bibliography (though he does refer in his Preface to those essays from which he feels he has received the most assistance), since one frequently would like to be able to compare Meade's argument with that of others. But the absence of voluminous footnotes probably does make this already well-written presentation more readable.

The book is divided into six parts. In Part I, the necessary definitions are made along with some interesting observations on the pitfalls of statistical balance-of-payments measurements. In Part II, Professor Meade analyzes the familiar price and income effects of the balance-of-payments adjustment which is occasioned by a spontaneous disturbance (e.g., an increase or decrease in domestic expenditure) in one of two countries (Meade hypothesizes a two-country world until Part VI),

assuming both have "neutral economies," i.e., both have constant fiscal policies, monetary policies, money wage rates, foreign exchange rates, and commercial policies. In Part III, the first two assumptions are relaxed in an effort to ascertain the effect of established, full-employment policy measures on the internal balance (full-employment equilibrium) and external balance (balance-of-payments equilibrium) of either or both countries.

In Part IV, which is probably the most difficult as well as the most rewarding section of the book,[1] it is shown that full employment domestic policy *plus* flexible wage rates or foreign exchange rates may make it possible for both nations to maintain both internal and external balance. Assuming flexible money wage rates and a willingness to follow the "rules of the game," a gold standard, or its equivalent, may turn the trick. Or assuming that there is sufficient divorcement between movements in the cost-of-living and money-wage rates, flexible exchange rates may do.

There are, however, such an unending number of qualifications that Meade almost forces the reader to conclude that the whole business is really quite hopeless after all. As a single example, there is the familiar qualification that price changes will not be effective in improving external balance (and, as is shown in Part III, it is very unlikely that income changes alone will be sufficient) unless the sum of the elasticities of demand for imports in the two countries is greater than unity.[2] Meade feels that this condition will be met if the time interval allowed is sufficiently great, but points out that it may not be met if the nations adopt commercial policies which do not permit an easy change in the channels of trade.

Part V deals with the question of commercial policy. Here it becomes clear that a nation which attempts to solve its balance of payments difficulties by restricting trade probably must incase all external transactions in the straitjacket of controls.

Meade does not, however, reject commercial policy as an instrument of balance-of-payments adjustment, even if price and income changes would otherwise accomplish the purpose. He feels that a deficit country which is also a poor country may be forced to use restrictive commercial policy because it cannot afford the adverse movement in the real terms of trade which would probably occur if external balance were achieved through traditional means. But he adds (p. 329): "... it is, of course, possible that the movement away from the modified free-trade position is so extensive and that the movement of the terms of trade against the deficit country which is avoided by the use of restrictions on imports or on capital movements is so slight, that residents in the deficit country (as well as those in the surplus country) would be absolutely better off if the method of exchange depreciation had been used. What would be gained through there being a larger world cake to divide would be greater than what would be lost through having a rather smaller proportionate share of the cake."

Meade suggests that a modified free trade world may be maintained if the rich,

1. Chapter xviii on "Foreign and Home Trade Products" is especially worth while. Professor Meade does an excellent job of showing the effect of induced price level or foreign exchange rate changes on the export, import-competing, and purely domestic industries of a given country. This discussion helps to clarify the important question of what will happen to a country's real terms of trade if its balance-of-payments position is shifting, a matter which has not received sufficient attention in many of the recent articles on the "dollar shortage."

2. The matter is not really this simple, as Professor Meade shows in his chapter on "Foreign and Home Trade Products," especially on p. 247, and in his chapter on "Multilateral Price Adjustments," especially on pp. 364 and 376.

surplus countries are willing to subsidize the poor countries directly in the event the relative position of the poor countries is worsened as a result of the use of exchange depreciation in providing balance-of-payments adjustment. One wonders what is to prevent a "poor" country from creating a balance-of-payments deficit by appreciating its currency and then demanding aid as a condition to its not using a restrictive commercial policy. Nevertheless, it seems clear that the problems of balance-of-payments adjustment and modified free trade are not likely to be solved without an increase in genuine international economic understanding and co-operation, and this book could contribute to furthering such understanding.

In Part VI, Professor Meade attempts to apply his previous two-country analysis to a many-country world. He shows, among other things, that income effects are less likely to provide both internal and external balance for all countries than for both countries in a two-country world, but that price effects are more likely to do so if (p. 376) there is "a good degree of direct or indirect substitution between the products of the surplus countries on the one hand and of the deficit countries on the other." He also shows why restrictive commercial policy, if used, is likely to be discriminatory (it will be more useful then non-discriminatory policy in providing external balance) and why it is likely to spread until most countries have abandoned exchange convertibility and are forced to seek bilateral rather than multilateral balance in their external trade.

He states in his conclusion (p. 423) that "reliance should be placed upon measures other than direct controls." But, for this to be possible, the international system requires (p. 424): "(i) a reasonable absence of excessive and rigid trade barriers; (ii) some agreed system for the adjustment of exchange rates so that countries do in fact depreciate their exchange rates when they are in deficit and do not depreciate otherwise, and that countries do in fact appreciate their exchange rates when they are in surplus and do not appreciate otherwise; and (iii) a reasonable initial distribution among the countries of the world of an adequate stock of gold or of other internationally acceptable means of payment."

There are two additional requirements: that each country maintain an adequate internal policy for full employment, and that money wage rates not be tied to the cost of living.

One puts this book down with at least three thoughts in mind. First, one wonders if, in spite of all the painstaking detail, it is not still a too simple explanation of much of what it sets out to explain. Professor Meade tells us in his Preface that in constructing his book he made a simple mathematical model of most of the problems before writing about them. Indeed, a mathematical supplement has been published separately. This procedure is certainly useful in one way, since none of the possible cases which follow from given assumptions is likely to be overlooked. Such a procedure may also, however, lead to the use of assumptions which are mathematically convenient but are more or less oversimplified approximations of the real world. For example, one feels a bit uneasy about the assumptions which are made concerning the attainment of internal balance. All of the knotty problems of full employment policy are assumed away in the assertion that an increase or a decrease in domestic expenditure will provide the requisite internal equilibrium.[3]

In this same connection, one wishes that there might have been a fuller discussion of the concept of the elasticity of a nation's demand for imports. Professor

3. Professor Meade has declared his intention to produce a third volume in this series, one dealing with domestic policy. It is greatly to be hoped that he will do so.

Meade analyzes his two-country adjustment process in so far as price changes are concerned by assuming that the combined elasticity of import demand is greater than one, equal to one, or less than one. But what factors determine this elasticity? Will it not be different at different prices? Will it not be greater the more countries are taken into account? Can more be said about its change over a period of time? What is its relation to costs? This idea of elasticity in the theory of international trade (as used by Meade) is relatively new and needs to be explored further conceptually as well as empirically.

Second, rather paradoxically, one is dismayed by the complexity of the problems of balance-of-payments adjustments, especially since they were all but taken for granted in the literature of the not-too-far-distant past, and one rather despairs of the prospects of the world's ever regaining the relatively easy process of adjustment it knew in the days before 1914, especially in view of the rather dismal showing to date of the International Monetary Fund, the lack of any real enthusiasm for the all-but-forgotten International Trade Organization, and the additional complications arising from the "cold war."

Thirdly, one wishes that *The Balance of Payments* might be read and understood by more people than are likely to give it a try. It is not an easy book, but the analysis is clear, comprehensive, and extremely valuable for an understanding of the current problems of international trade and finance. The book should surely be a welcome addition to required reading lists for graduate schools in economics or international relations.

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Urban Real Estate Markets: Characteristics and Financing. By ERNEST M. FISHER. New York: National Bureau of Economic Research, 1951. Pp. xxi+186. $3.00.

Interested students will welcome the studies of mortgage-lending practices being prepared by the National Bureau of Economic Research. Professor Fisher's monograph is a part of this investigation and has as its principal objective a general description of real estate markets; other studies, completed or in process, deal with the practices of specific types of lending institutions and with other aspects of real estate finance.

The author finds that "the real estate market cannot be analyzed as a single market, but only as a series of localized, fragmentized, and particularized markets for a wide variety of rights to assorted services flowing from numerous unique sources, and only roughly comparable one with the other" (p. 12). Following a concise summary of the economic characteristics of urban real estate and of the instruments of real estate finance, he proceeds with an analysis of the separate markets. The characteristics of the market for homes in fee, the market for residential leaseholds, and the market for investment in fees are discussed in detail; briefer treatment is accorded the markets for subdivision lots and acreage, commercial and office space, and land and improvements for industrial uses.

Differences in behavior of buyer's and seller's markets are analyzed. Thus in a buyer's market the tendency for declining prices to bring more buyers into the market "is almost nullified by other forces; notable among these . . . is a widespread preference for liquidity and safety" (p. 46). In a seller's market, prices tend to rise disproportionately to the increase in income in the community, re-

sulting in buyer resistance and a willingness to accept lower housing standards rather than to incur obligations based on the current prices of homes in fee. The influence of financing terms on market behavior is analyzed; for example, the effect of reducing the down payment requirement is to multiply its purchasing power, and if lowered below 10 or 20 per cent, to destroy much of its effectiveness as a limitation upon the price offered by the purchaser. The discriminating tone of the study is suggested by the discussion of the effect of liberalized credit terms on prices. "In a buyer's market, it seems that when there is an opportunity to select from a number of homes having about the same price and quality, more liberal credit probably raises housing standards; but in a seller's market, when choice is restricted and the seller virtually dictates sales terms, more liberal credit is likely to be absorbed in price with probably a reduction in housing standards" (p. 88).

The examination of the market for residential leaseholds is comparable in its detailed presentation to the study of the market for homes in fee. Conditions affecting rents are considered, as well as the effects of rising and falling family incomes upon housing standards. The discussion of the market for investment in fees includes both residential and commercial real estate but is restricted to the operations of limited dividend housing corporations, estates or foundations that have conducted housing experiments, and life insurance companies. The lack of a record of investment motives and experience precludes a more comprehensive study of this market.

The description of market characteristics is supported by substantial statistical data presented in tables and charts. Of special interest to students is the appendix containing statistical series on deeds recorded, mortgages recorded, and foreclosures for selected local areas. Hitherto unpublished FHA data on the number of deeds recorded in eight widely separated counties and the District of Columbia for the period 1895–1946 are included. Monthly data which are the basis of the series are shown separately and provide further evidence regarding the nature of cyclical and seasonal fluctuations. Data on the number of mortgage recordings for nine counties, 1899–1946, are analyzed for such variations. There is also a summary by years of the estimated number of non-farm real estate foreclosures during 1926–49.

Professor Fisher's thorough and objective study fills in many of the gaps in our information concerning urban real estate markets. The author has established a systematic framework that will aid other investigators. His book will be welcomed for its discriminating analysis of the markets described and for its stimulus to further investigation. Here is a useful reference work for classes and a valuable aid to officers of lending institutions and to other businessmen who need basic information concerning real estate markets.

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Land Planning Law in a Free Society. By CHARLES M. HAAR. Cambridge, Mass.: Harvard University Press, 1951. Pp. xiii+213. $4.00.

Land planning in the sense that it may emphasize the social or community interest as opposed to a narrow concept of individual interest is a comparatively modern development. Usually it has represented an effort to ameliorate conditions

created by the "unplanned" development of industrialism, e.g., slum clearance and street and highway relocations. Ordinarily systematic planning of land use has not been achieved for at least two reasons. One limitation has been that imposed by cost. Condemnation proceedings are inherently expensive affairs since they usually involve intensively developed income-producing properties. The second difficulty is the existence of a system of local, consciously independent, government units with small jurisdictions bearing little relationship to the physical facts of the problem. Without a planning authority contiguous with, or larger than, the area requiring planning, it is difficult to accomplish systematic or adequate planning.

Both limitations existed in land planning in prewar England. Being a country where local government was considered important, land planning law was quite naturally on an essentially local basis. Early legislation had been limited to authorizing action by the local units. Land values had made community control and use of property prohibitive. As a consequence, little real progress had been made by 1947.

In 1947, the Law and Country Planning Act was passed. This Act swept away all the earlier legislation beginning with the Public Health Act, 1848, aimed at congestion brought about by the factory system; through the Housing, Town Planning, etc., Act, 1909, the first Act directed at land planning as such; and culminating in the Town and Country Planning Act of 1944.

"The assumption by the English government of control over land use and misuse is a major institutional change bound to affect numerous social and economic aims and policies. To a certain extent, the Town and Country Planning Act is merely a consolidation measure, repealing wide swathes of earlier town and country legislation and reenacting a great number of earlier provisions. But the Act is far more than a patching of the weaknesses experience had disclosed in the fabric of the earlier legislation. In the first place, the Act is through and through a planners' Act. All the peculiar ramifications and expedients of the Act flow logically from the fact. Moreover, the Act is not simply a public works or housing program, or even a large-scale slum clearance program; nor is it concerned with a more orderly rearrangement of houses, street patterns, or joining up a few districts. On the contrary, timidity has been cast off. The Act aims at nothing less than providing suitable physical framework for human life."

The Act copes with the previous problems of land planning in a forthright manner. The number of jurisdictions involved is reduced from 1,441 local governments of varying size to 145 planning authorities. These authorities have adequate powers to take an over-all approach to the problem, and perhaps more important (much of the demolition costs having been incurred already as a result of bomb damage), additional costs have been reduced through limiting compensation for acquired land to its use value as measured by actual use at the time of acquisition. Anticipation or prospects may not add to the value. Thus, one more step is taken to limit private rights in property. But, it must seem both a logical and a mild step in a country that has been conditioned to planning by such programs as the nationalizing of banking and heavy industry.

While the book is based primarily on an analysis of the Town and Country Planning Act, 1947, the treatment is broad both in terms of the relationships of the new planning function to other governmental activities and in terms of extant laws bearing on land use and valuation. The analysis is grouped in four sections: (1) the machinery of town and country planning—the national, regional, and

local plans; (2) state supervision of land use—development plans and the control of development; (3) the nationalization of development value—betterment and compensation, compensation for loss of development value, the development change, special cases; and (4) public ownership of land—compulsory acquisition, compensation payroll, development and disposal of land.

The work is a thorough and scholarly analysis of what is obviously a complex law operating in a complex situation. That the law is an important development can be denied by no one regardless of his political complexion. The book should receive the careful consideration of those interested in the problems of land planning in this country.

J. C. DOCKERAY

U.S. Department of Commerce

The Prefabrication of Houses. By BURNHAM KELLY. New York: John Wiley, 1951. Pp. xxii+466. $7.50.

At the end of World War II, the extended mass production methods that had come into play, combined with a vast need for new housing, created an intense interest in the prefabricated home building industry. The years following have seen that industry slowly gain, both in the number of manufacturers in the field, and in total output. While dwarfed by total housing starts in the postwar period, the contribution of this industry has been a measurable one.

Nevertheless, on balance it must be pointed out the prefabrication industry has not lived up to the hopes with which it had been greeted. The answers to the lack of greater development in this field are not to be found only in its immediate history, but in its long history of complex series of problems to be solved. It is in this respect that Mr. Kelly's book is of great value, both to the layman interested in the results of the industry as it affects his home-owning plans, and to a very wide variety of professionals involved in the field itself.

The latter point is of importance, as Mr. Kelly has recognized. The problems that have faced the industry, and with which it is still grappling, are not limited to questions of design, utilization of materials, mass production methods, merchandising, or financing; rather it is an intermingling of these problems that has prevented greater growth than seen to date. It is one of the important values of this book that its very construction is based on appreciation of this complexity. In addition to an excellent historical survey of the field, plus a sound evaluation of what lies ahead of the industry, Mr. Kelly has dealt with the major phases in operation with considerable clarity.

It is relatively easy to present a case for or against any field of economic enterprise; to obtain a rounded picture is obviously more difficult, but the volume at hand has succeeded in this task, to the benefit of the reader *qua* reader, or looking for help in solution of problems. A considerable amount of work lies ahead in the various specialized fields discussed; the idea of prefabricated houses and the results to date in the industry provide an underlying basis of strength. For those readers who require acquaintance with the field as a whole, however, this book is highly recommended.

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